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# STORM DATA



AND UNUSUAL WEATHER PHENOMENA  
WITH LATE REPORTS AND CORRECTIONS



**noaa** NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION

NATIONAL ENVIRONMENTAL SATELLITE  
DATA, AND INFORMATION SERVICE

NATIONAL CLIMATIC DATA CENTER  
ASHEVILLE, N.C.

**Cover:** An aerial view of the town of Comfrey, in South Central Minnesota after being decimated by an F4 tornado. The F4 (wind speeds between 157-206 mph) tornado damaged 75% of the town, destroying much of the downtown section. The total path length of the tornado was 73 miles with a maximum path width of 1.25 miles. A total of 7 tornadoes killed two people, injured 21 and caused nearly 250 million dollars in property damage. (*Photograph courtesy of The Star-Tribune, Minneapolis, Minnesota. © 1998 All rights reserved.*)

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### **STORM DATA**

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The Storm Data and Unusual Weather Phenomena narratives and Hurricane/Tropical Storm summaries are prepared by the National Weather Service. Monthly and annual statistics and summaries of tornado and lightning events resulting in deaths, injuries, and damage are compiled by cooperative efforts between the National Climatic Data Center and the Storm Prediction Center.

**STORM DATA** contains all confirmed information on storms available to our staff at the time of publication. However, due to difficulties inherent in the collection of this type of data, it is not all-inclusive. Late reports and corrections are printed in each edition.

Maps of the National Weather Service County Warning Areas which are used in the Storm Data and Unusual Weather Phenomena section will be printed in all editions.

Except for limited editing to correct grammatical errors, materials submitted are generally published as received.

Note: "None Reported" means that no severe weather occurred and "Not Received" means that no reports were received for this region at the time of printing.

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The editors of **STORM DATA** solicits your help in acquiring photographs (prints or slides; black and white, or color), maps, clippings, etc. of significant or unusual weather events (past or present). These could be for use in the "Outstanding Storms of the Month" or "Et Cetera" sections of **STORM DATA**. We request our subscribers or other interested persons to mail such items to:

Stuart Hinson  
National Climatic Data Center  
151 Patton Avenue  
Asheville, NC 28801

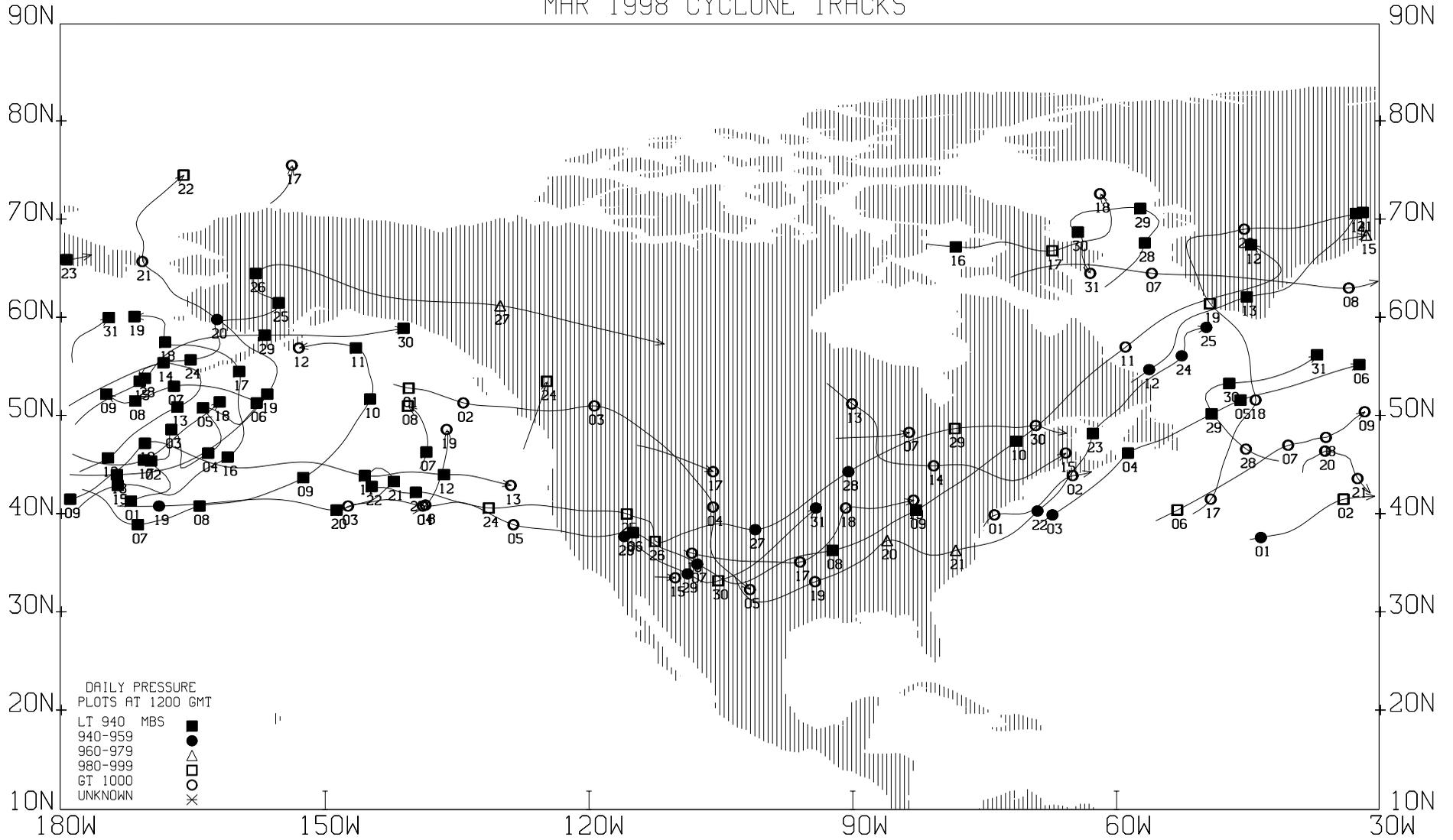
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"I certify that this is an official publication of the National Oceanic and Atmospheric Administration and is compiled from information received at the National Climatic Data Center Asheville, North Carolina 28801-2733."



Thomas R. Karl  
Director,  
National Climatic Data Center

# MAR 1998 CYCLONE TRACKS



# March 1998 Confirmed Tornadoes



# OUTSTANDING STORMS OF THE MONTH

## 1. TORNADO CAUSES DAMAGE IN NORTHEAST GEORGIA

Early on the morning of March 20, 1998, a surface low pressure system was located in central Kentucky with its associated cold front draped southward through Tennessee, Northwest Georgia and Alabama. Severe thunderstorms developed ahead of the cold front and a tornado spawned from one of the cells. The funnel touched down at 6:25 AM LST in Hall County near the town of Murrayville, Georgia (About 10 miles NNE of Gainesville, GA). The tornado track was 13 miles long and up to 200 yards wide at some points. Several permanent homes, mobile homes, automobiles and poultry farms were damaged or destroyed. The tornado also severely damaged an elementary school and a high school in Hall County. The tornado caused 12 fatalities (11 occurred in mobile homes), 171 injuries and 20 million dollars in property damage.

**Below:** Neighborhood residents search through the rubble for personal belongings.

*(Hall and White County Photographs courtesy of Jim Cook Jr., The Times, Gainesville, Georgia)*



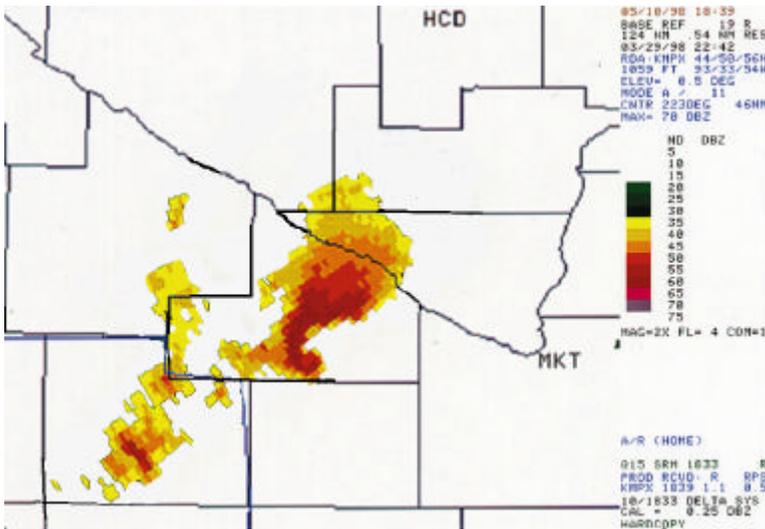
**Above:** The twisted remains of the North Hall High School auditorium. If the tornado struck an hour later, the classrooms would have been full of students and the death toll could have been much higher.

**Below:** One of the destroyed permanent homes along with two severely damaged automobiles.



## 2. F4 TORNADO TOUCHES DOWN IN SOUTH CENTRAL MINNESOTA

In an area not known for early spring tornadoes, seven tornadoes including a powerful F4 tornado, (wind speed of 207 - 260 mph on the Fujita Scale) struck the northern plains. On March 29, 1998, a surface low pressure area was located in eastern South Dakota with an associated warm front extending eastward into Wisconsin. A thunderstorm complex developed near Sioux Falls, SD during the early afternoon hours and moved east into Minnesota, producing large hail. The thunderstorm cells produced a series of small tornadoes prior to producing an F3 tornado at 3:50 PM CST, 7 miles east of Avoca, MN. The tornado moved east-northeast through Cottonwood County, damaging rural farms, small towns and devastating much of the town of Comfrey, MN. The tornado reached F4 strength before dissipating at 5:15 PM CST. Another tornado touched down at 5:18 PM CST, producing F3 damage to the city of St. Peter and Gustavus Adolphus College. There were 2 fatalities and 21 injuries.



**Left:** This radar image shows a perfect example of a well defined “hook echo”. The WSR-88D Doppler Radar identifies the heaviest or most dense rainfall with darker shades. The “hook” is a signature used by the NWS to identify possible tornadic thunderstorm cells. Tornado warnings are issued based on the hook echo signature. The NWS recorded this image of the hook echo on March 29 at 5:22 PM CST (22:42 UTC). (Radar image courtesy of the NWS, Chanhassen, MN)

**Below Left:** Volunteer rescue workers and residents of the town of Comfrey, MN inspect the tornado damage, shortly after the tornado passed.

**Below Right:** A resident of the town of St. Peter, MN sifts through the debris for personal belongings. Ninety percent of the towns homes were damaged and 25% were destroyed.

(All southern Minnesota tornado photographs are courtesy of the Star-Tribune, Minneapolis, MN. ©1998 Special Thanks to Todd Krause, NWS, Chanhassen, MN for contributing to this story)



# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>ALABAMA, North Central</b>									
<b>Lamar County</b>									
<b>Millport</b>	<b>06</b>	<b>0105CST</b>			<b>0</b>	<b>0</b>	<b>3K</b>	<b>0</b>	<b>Hail (1.75)</b>
			Golf ball size hail was reported in Millport.						
<b>Tuscaloosa County</b>									
<b>Moore's Bridge</b>	<b>06</b>	<b>0135CST</b>			<b>0</b>	<b>0</b>	<b>3K</b>	<b>0</b>	<b>Hail (1.75)</b>
			Golf ball size hail was at Mayfield, near Moore's Bridge.						
<b>Winston County</b>									
<b>Double Springs</b>	<b>06</b>	<b>0345CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (0.75)</b>
			Dime size hail was reported by the EMA.						
<b>Talladega County</b>									
<b>Sylacauga</b>	<b>06</b>	<b>0420CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (0.75)</b>
<b>Talladega County</b>									
<b>Fayetteville</b>	<b>06</b>	<b>0427CST</b>			<b>0</b>	<b>0</b>	<b>3K</b>	<b>0</b>	<b>Hail (1.75)</b>
			Dime size hail was reported in Sylacauga and golf ball size hail was reported in Fayetteville.						
<b>Randolph County</b>									
<b>Countywide</b>	<b>08</b>	<b>0800CST</b> <b>1100CST</b>			<b>0</b>	<b>0</b>	<b>500K</b>	<b>30K</b>	<b>Flash Flood</b>
			After a very heavy rain event, several creeks, including Wedowee and Wehadkee Creeks, overflowed their banks. This washed out 15 to 20 roads and bridges across the county.						
<b>Barbour County</b>									
<b>Countywide</b>	<b>08</b>	<b>0900CST</b> <b>1500CST</b>			<b>0</b>	<b>0</b>	<b>75K</b>	<b>10K</b>	<b>Flash Flood</b>
			After heavy rains over south Alabama, several roads were washed out in the southern part of the county. Schools were closed for a day due to the flooding.						
<b>Pike County</b>									
<b>Countywide</b>	<b>08</b>	<b>0915CST</b> <b>1500CST</b>			<b>0</b>	<b>0</b>	<b>75K</b>	<b>10K</b>	<b>Flash Flood</b>
			Several county roads were washed out after more than five inches of rain fell over the southern part of the county. Several schools were also closed due to the flooding.						
<b>Russell County</b>									
<b>Countywide</b>	<b>08</b>	<b>0930CST</b> <b>1500CST</b>			<b>0</b>	<b>0</b>	<b>75K</b>	<b>10K</b>	<b>Flash Flood</b>
			Some schools were closed after heavy rains moved over the county. Holland Creek flooded and washed out a few roads.						
<b>Lowndes County</b>									
<b>Lowndesboro</b>	<b>08</b>	<b>1507CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (1.00)</b>
			Hail the size of quarters fell in Lowndesboro.						
<b>Autauga County</b>									
<b>Prattville</b>	<b>08</b>	<b>1521CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (0.75)</b>
			Dime size hail was reported in Prattville.						
<b>Jackson County</b>									
<b>Bridgeport</b>	<b>08</b>	<b>1631CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (0.75)</b>
			Dime size hail was reported in Bridgeport by the police.						
<b>Madison County</b>									
<b>Meridianville</b>	<b>08</b>	<b>1655CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (0.75)</b>
<b>Madison County</b>									
<b>Meridianville</b>	<b>08</b>	<b>1655CST</b>			<b>0</b>	<b>0</b>	<b>2K</b>	<b>0</b>	<b>Thunderstorm Wind (G50)</b>
			Some tin was blown off a roof at Meridian Street and Alabama A & M University. Dime size hail was also reported in Meridianville.						
<b>ALZ044</b>									
		<b>Montgomery</b>							
	<b>08</b>	<b>1700CST</b>			<b>0</b>	<b>0</b>	<b>35K</b>	<b>0</b>	<b>Flood</b>
	<b>13</b>	<b>1500CST</b>							
			Flooding around Montgomery occurred as the Alabama River crested at 42.3 feet, with considerable overflow of lowlands in the area. Some roads in the area became flooded as well as the golf course at Maxwell AFB. Compounding the problems in Montgomery, Catoma Creek crested some four feet above flood stage and some minor residential flooding likely occurred in the area.						
<b>Madison County</b>									
<b>Brownsboro</b>	<b>08</b>	<b>1715CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (0.88)</b>

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>ALABAMA, North Central</b>									
<b>Madison County</b>									
New Market	08	1716CST			0	0	0	0	Hail (1.00)
Nickel to quarter size hail was reported in Brownsboro and New Market.									
<b>Montgomery County</b>									
Montgomery	08	1730CST			0	0	0	0	Hail (0.88)
Nickel size hail was reported inside the city limits of Montgomery.									
<b>Elmore County</b>									
3 E Wetumpka	08	1740CST			0	0	0	0	Hail (0.88)
Hail the size of nickels was reported just east of Wetumpka.									
<b>Tallapoosa County</b>									
Alexander City	08	1810CST			0	0	0	0	Hail (0.75)
Dime size hail was reported in Alexander City.									
<b>ALZ043</b>									
<b>Elmore</b>									
	08	2100CST			0	0	5K	0	Flood
	11	0800CST							
Flooding along the lower Tallapoosa produced extensive flooding of lowlands around the Tallapoosa Water Plant, flooding some farm equipment in the area and forcing the evacuation of cattle to higher ground. Some roads in the area, such as Wetumpka Highway, also experienced flooding.									
<b>Franklin County</b>									
Hodges	19	1944CST			0	0	0	0	Hail (1.00)
<b>Franklin County</b>									
3 SW Phil Campbell	19	1950CST			0	0	0	0	Hail (1.00)
<b>Franklin County</b>									
Phil Campbell	19	1954CST			0	0	0	0	Hail (0.88)
Hail the size of nickels to quarters was reported in Hodges, Shady Grove, and Phil Campbell, in the southern part of the county.									
<b>Marion County</b>									
6 SW Hackleburg	19	1944CST			0	0	0	0	Hail (1.00)
Hail the size of quarters was reported in Antioch, in northern Marion county.									
<b>Franklin County</b>									
Russellville	19	1959CST			0	0	0	0	Hail (1.00)
Quarter sized hail was reported in Russellville, in the northern part of the county.									
<b>Winston County</b>									
Haleyville	19	2002CST			0	0	0	0	Hail (0.75)
Dime size hail was reported near Haleyville.									
<b>Lawrence County</b>									
Mt Hope	19	2012CST			0	0	0	0	Hail (0.75)
<b>Lawrence County</b>									
Hatton	19	2015CST			0	0	0	0	Hail (0.75)
Dime size hail was covering the ground near Mt. Hope and Hatton in the western part of the county.									
<b>Marion County</b>									
Guin	19	2047CST			0	0	0	0	Hail (0.75)
Penny size hail was reported in Guin.									
<b>Lamar County</b>									
Millport	19	2049CST			0	0	0	0	Hail (0.75)
<b>Lamar County</b>									
Sulligent	19	2050CST			0	0	0	0	Hail (0.75)
Dime size hail was reported across the entire county, especially in Millport and Sulligent.									
<b>Limestone County</b>									
5 NE Athens	19	2057CST			0	0	0	0	Hail (0.75)
Dime size hail was reported northeast of Athens by the state troopers.									
<b>Fayette County</b>									
Fayette	19	2100CST			0	0	3K	0	Thunderstorm Wind (G50)
A few trees and power lines were down in Fayette.									
<b>Madison County</b>									
Harvest	19	2112CST			0	0	0	0	Hail (0.75)
<b>Madison County</b>									
Toney	19	2112CST			0	0	0	0	Hail (0.75)

# Storm Data and Unusual Weather Phenomena

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Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>ALABAMA, North Central</b>									
<b>Madison County</b>									
Hazel Green	19	2124CST			0	0	0	0	Hail (0.75)
	Dime size hail was reported in Harvest, Toney, and Hazel Green in the western and northern parts of the county.								
<b>Winston County</b>									
Double Spgs	19	2120CST			0	0	0	0	Hail (1.00)
	Dime to quarter size hail was reported just east of Double Springs.								
<b>Walker County</b>									
Carbon Hill	19	2120CST			0	0	3K	0	Hail (1.75)
	Hail the size of golf balls was reported near Carbon Hill.								
<b>Winston County</b>									
Haleyville	19	2135CST			0	0	0	0	Hail (0.75)
	Dime size hail was reported in Haleyville.								
<b>Cullman County</b>									
Jones Chapel	19	2148CST			0	0	0	0	Hail (0.75)
<b>Cullman County</b>									
Battleground	19	2202CST			0	0	0	0	Hail (0.88)
<b>Cullman County</b>									
Cullman	19	2207CST			0	0	0	0	Hail (0.75)
	Dime to nickel size hail was reported in western and central Cullman County.								
<b>Tuscaloosa County</b>									
Northport	19	2200CST			0	0	0	0	Hail (1.00)
<b>Tuscaloosa County</b>									
Tuscaloosa	19	2207CST			0	0	0	0	Hail (1.00)
<b>Tuscaloosa County</b>									
Tuscaloosa	19	2216CST			0	0	0	0	Hail (0.75)
<b>Tuscaloosa County</b>									
Fosters	19	2224CST			0	0	0	0	Hail (0.75)
<b>Tuscaloosa County</b>									
Tuscaloosa	19	2230CST			0	0	0	0	Hail (0.75)
	Dime to quarter size hail was reported in and around the city of Tuscaloosa, Northport and Fosters with a line of thunderstorms moving through the county.								
<b>Madison County</b>									
Huntsville	19	2234CST			0	0	0	0	Hail (0.75)
	Dime size hail was reported in Huntsville.								
<b>Madison County</b>									
New Hope	19	2239CST			0	0	382K	0	Thunderstorm Wind (G65)
	One home and five mobile homes were destroyed and 65 others structures sustained major or minor damage in the New Hope area.								
<b>Marshall County</b>									
Grant	19	2245CST			0	0	0	0	Thunderstorm Wind (G55)
	There were a few trees blown down, and damage was reported to a few porches north of Grant.								
<b>Marshall County</b>									
Arab	19	2258CST			0	0	0	0	Hail (0.75)
	Dime size hail was reported in Arab.								
<b>Jefferson County</b>									
Hueytown	19	2307CST			0	0	0	0	Hail (0.75)
	Dime size hail was reported in Hueytown.								
<b>Jackson County</b>									
Skyline	19	2310CST			0	0	0	0	Thunderstorm Wind (G65)
	At least two trailers were destroyed in Skyline.								
<b>Bibb County</b>									
Centreville	19	2315CST			0	0	0	0	Hail (0.88)
	Nickel size hail was reported in Centreville.								
<b>Jackson County</b>									
Bridgeport	19	2330CST			0	0	0	0	Hail (0.75)
	Dime size hail was reported in Bridgeport.								

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## ALABAMA, North Central

<b>Shelby County</b> 6 NW Chelsea	19	2337CST			0	0	0	0	Hail (0.75)
<b>Shelby County</b> 6 NW Chelsea	19	2345CST			0	0	380K	0	Thunderstorm Wind (G65) Dime size hail was reported in Inverness. A downburst destroyed the Racetrac gas station at US 280 and AL 119. There were also several windows blown out and some construction trucks were overturned.
<b>Etowah County</b> Gallant	19	2357CST			0	0	0	0	Hail (0.75) Dime size hail was reported in Gallant, in the southwest part of the county.
<b>Dallas County</b> Pleasant Hill	20	0010CST			0	0	0	0	Hail (1.75) Golf ball size hail was reported from Pleasant Hill to Polk.
<b>St. Clair County</b> Logan Martin Res	20	0013CST			0	0	0	0	Hail (0.75)
<b>Talladega County</b> 7.5 NW Alpine	20	0014CST			0	0	0	0	Hail (0.75) Dime size hail was reported at Logan Martin Dam.
<b>Dekalb County</b> Rainsville	20	0020CST			0	0	0	0	Hail (0.75)
<b>Dekalb County</b> Ft Payne	20	0027CST			0	0	0	0	Hail (0.75) Dime size hail was reported in Rainsville and Fort Payne.
<b>Coosa County</b> 10 NW Rockford	20	0025CST			0	0	0	0	Hail (1.00) Hail the size of quarters was reported in Weogufka in the northern part of the county.
<b>Talladega County</b> 11 SW Sylacauga	20	0040CST			0	0	0	0	Hail (0.75) Dime size hail was reported in Winterboro in the western part of the county.
<b>Lowndes County</b> Lowndesboro	20	0050CST			0	0	0	0	Hail (1.25) Half dollar size hail was reported in Lowndesboro.
<b>Elmore County</b> 3 SW Millbrook	20	0100CST			0	0	5K	0	Thunderstorm Wind (G55) A 30 to 40 foot antenna was blown down and numerous trees were blown down in a path about 150 yards long.
<b>Montgomery County</b> Hope Hull	20	0105CST			0	0	0	0	Hail (1.25)
<b>Montgomery County</b> Montgomery	20	0125CST			0	0	4K	0	Hail (1.75)
<b>Montgomery County</b> Montgomery	20	0128CST			0	0	0	0	Hail (0.88)
<b>Montgomery County</b> Mt Meigs	20	0143CST			0	0	0	0	Hail (0.75) Half dollar size hail was reported in Hope Hull, golf ball size hail was reported near Dannelley Field, nickel size hail was reported in downtown Montgomery, and dime size hail was reported near Mt Meigs.
<b>Macon County</b> Tuskegee	20	0215CST			0	0	0	0	Hail (0.75) Dime size hail was reported in the western parts of Tuskegee.
<b>Lee County</b> Marvyn	20	0259CST			0	0	0	0	Hail (0.75) Dime size hail was reported in the Marvin community.

## ALABAMA, Southeast

<b>ALZ066</b>	<b>Dale</b> 05	1615EST 1630EST			0	0	70K		High Wind
One half of tin roof blown off a furniture manufacturing plant one mile north of Ozark. Numerous large tree limbs snapped near Industrial Park. Quarter sized hail and wind gusts to 47 mph observed by EOC officials in Ozark. Lightning struck and destroyed a home four miles northeast of Ozark.									

# Storm Data and Unusual Weather Phenomena

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Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## ALABAMA, Southeast

**ALZ065-068**      **Coffee - Geneva**  
**08**      **0635EST**  
                         **0640EST**  
                         Numerous trees and power lines down countywide.

**Coffee County**  
**Elba**      **08**      **1030EST**  
                         **1800EST**  
                         **4**      **0**      **105M**      **Flash Flood**

A vigorous Gulf storm dumped up to 14 inches of rain across the northern half of Coffee County. The earthen levee on the Beaver Dam Creek breached. A six foot wall of water rushed into the city of Elba. Two thousand residents were forced to evacuate. Nearly 400 homes and businesses sustained flood damage. Approximately 52 county roads were washed out or flooded. The Pe a River at Elba crested near 39.3 feet on March 9. Four people were killed when their vehicles were swept away by floodwaters. Coffee County was declared a federal disaster area.  
M5VE, M17VE, M59VE, F4VE

**ALZ066**      **Dale**  
**08**      **1100EST**  
                         Large trees down along County Road 23.

**ALZ066>069**      **Dale - Henry - Geneva - Houston**  
**08**      **1200EST**  
**17**      **0000EST**  
                         **0**      **0**      **230M**      **Flood**

An intense Gulf storm deposited up to 14 inches of rain across southeast Alabama on March 6-8. Houston, Dale, and Geneva counties were declared federal disaster areas. In Geneva County, runoff from torrential rains in Coffee and Dale counties pushed the Chotawhatchee River out of its banks. Resultant flooding the week of March 8 damaged 85 homes, washed out many of the county roads and closed State Highway 27 south from Geneva. An estimated 300 residents were without water. Communities suffering the worst damage were Malvern, Slocomb, Geneva, and Samson. The Choctawhatchee River at Geneva crested near 39.3 feet on March 9. In Houston County, 60 roads were closed. At Cottonwood, several families were evacuated. Approximately 175 homes sustained flood damage. In Dale County, numerous county and state roads were flooded. Between 300 and 400 homes were damaged. The Choctawhatchee River at Newton crested near 34.6 feet (third highest) on March 9. In Henry County, flood damage to county roads alone was estimated near \$440,000.

## ALABAMA, Southwest

**Mobile County**  
**Saraland**      **05**      **1303CST**  
                         **1305CST**  
                         Quarter size hail was reported around Saraland. The hail accumulated to a depth of four inches in places.

**Mobile County**  
**Creola**      **05**      **1325CST**  
                         **1327CST**  
                         Nickel to dime size hail was reported just northeast of Creola.

**Baldwin County**  
**Stockton**      **05**      **1330CST**  
                         **1331CST**  
                         Nickel size hail was reported along I-65 near the Stockton exit.

**Washington County**  
**Fruitdale**      **05**      **1430CST**  
                         **1431CST**  
                         Quarter size hail was reported just south of Fruitdale.

**Escambia County**  
**Poarch**      **05**      **1430CST**  
                         **1431CST**  
                         Dime size hail was reported near Poarch.

**Baldwin County**  
**Perdido**      **05**      **1430CST**  
                         **1431CST**  
                         Dime size hail was reported along I-65 near Perdido.

**Clarke County**  
**Whatley**      **05**      **1605CST**  
                         **1607CST**  
                         Golfball size hail was reported near Whatley.

**Choctaw County**  
**Butler**      **06**      **1820CST**  
                         **1822CST**  
                         **0**      **0**      **Hail (0.75)**

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>ALABAMA, Southwest</b>									
Dime size hail was reported along State Highway 17, just north of Butler.									
<b>Clarke County</b> Morvin	06	1915CST 1916CST			0	0			Hail (0.75)
Dime size hail was reported near Morvin.									
<b>Mobile County</b> Mobile	07	0800CST			1	0			Lightning
Two males were fishing from a boat near the bayway in Mobile Bay in a fishing tournament. Thunderstorms had been moving through the area for several hours. Lightning hit one of the males and he died before reaching the hospital. M26BO									
<b>Mobile County</b> Bayou La Batre	07	0900CST 0901CST			0	0			Hail (0.75)
Dime size hail was reported near Bayou La Batre.									
<b>Mobile County</b> Dauphin Is	07	0900CST 0901CST			0	0	2K		Thunderstorm Wind (G50)
A few trees were blown down on Dauphin Island.									
<b>Mobile County</b> Countywide	08	0001CST 2000CST			0	0	1M		Flood
<b>Baldwin County</b> Countywide	08	0030CST 2000CST			0	0	1M		Flood
<b>Conecuh County</b> Countywide	08	0130CST 2000CST			0	0	300K		Flood
<b>Escambia County</b> Countywide	08	0130CST 2000CST			0	0	1.5M		Flood
<b>Covington County</b> Countywide	08	0145CST 2000CST			0	0	6M		Flood
<b>Crenshaw County</b> Countywide	08	0600CST 2000CST			0	0	300K		Flood
<b>Butler County</b> Countywide	08	1030CST 2000CST			0	0	800K		Flood

A slow moving complex weather system moved through southwest Alabama on March 8, bringing with it copious amounts of rainfall. The Mobile WSR-88D estimated rainfall totals of six to ten inches across the area on March 8 with Brewton recording 9.54 inches. Some areas in north Baldwin county estimated up to fifteen inches of rain with Covington county estimating up to twelve inches of rain. The heavy rains began on the evening of March 7 and continued through the night before tapering off on the afternoon of March 8. The heaviest rainfall fell from midnight until around noon on March 8. The heavy rainfall caused widespread flooding across the area. The flooding began in Mobile county and then spread east across Baldwin, Escambia, Conecuh, Covington, Crenshaw and Butler counties. Most secondary roads were completely washed out in these counties. Following are highlights of some of the damages in the affected counties:

Mobile... Flooding began in the west part of the county then spread east. The flooding generally took place along and north of I-10. The University of South Alabama measured a one hour rainfall of 3.06 inches ending at 1221 am, a two hour total of 5.12 inches ending at 1223 am and a three hour total of 6.54 inches ending at 122 am. Many streets were closed due to high water through most of the day on March 8. Many secondary dirt roads in the north part of the county were completely washed out. A male drowned near USA around 1230 am when he jumped in to rescue a stranded motorist. The motorist got to safety but the rescuer was swept away by the swift water and drowned. This is the third person to drown at this spot since May of 1997.

Baldwin...Most of the flooding took place north of I-10. Most of the secondary roads were washed out by the heavy rain. Many of the paved roads in the north part of the county remained closed until the evening of March 8, when the water finally receded.

Conecuh...Most of the secondary roads throughout the county suffered damage. Most were closed from early Sunday morning until the evening of March 8. Part of I-65 was covered with water for a few hours during the morning of March 8 and traffic had to be rerouted.

Escambia...Almost every road in the county had standing water in them. Many of the secondary dirt roads were washed out by the flooding. U S Highway 29 from Flomaton to Brewton was closed from the early morning until evening of March 8. Traffic had to

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property Damage	Crops	

## ALABAMA, Southwest

be rerouted during this time. Residents in the area said this flood was worse than the flood of 1990. After the flash flooding subsided, river flooding continued for the next several days. On the Big Escambia Creek near Flomaton, the river reached an elevation of 19.7 feet which was second to the highest reading on the river of 25.9 feet in 1929. On Murder Creek in Brewton, flood waters rose to a depth of more than two feet inside an industrial plant and caused four million dollars in damage. The business was not on the river during the 1990 flood.

Covington...Radar estimated that this county received the most rainfall. Most of the dirt roads throughout the county suffered major damage. Many of the primary roads had to be closed from early Sunday morning until the evening of March 8. The schools throughout the county were closed the next day because of the many washed out dirt roads. A trailer park had to be evacuated near Opp because of high water. A motorist had to be rescued when he drove his car into a flooded street and his automobile was washed away, also near Opp. A male drowned near Point A Dam around noon on March 8, when he drove his vehicle along a road around the lake. The road caved in and his vehicle was carried into the lake. Like Escambia county, residents say this was the worst flood they have seen.

Crenshaw...Most of the dirt roads in the county were washed out. Many of the primary roads also suffered major damage. U S Highway 29 near Dozier was closed on Sunday morning as a dam broke on a pond and caused part of the highway to be washed away. Schools across the county were closed on Monday because of the many dirt roads that were washed out.

Butler...Most of the dirt roads in the south part of the county were washed out by the heavy rain. Many paved roads in the same part of the county, generally south of Greenville, suffered major damage. Some were closed throughout the day on Sunday.

### **Conecuh County**

**Paul**

<b>08</b>	<b>0050CST</b>			<b>0</b>	<b>0</b>				<b>Hail (0.75)</b>
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**0051CST**

Dime size hail was reported near Paul.

### **Butler County**

**Greenville**

<b>08</b>	<b>0103CST</b>			<b>0</b>	<b>0</b>				<b>Hail (0.75)</b>
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**0105CST**

Dime size hail was reported along I-65 near Greenville.

### **ALZ063>064**

#### **Lower Mobile - Lower Baldwin**

<b>08</b>	<b>0200CST</b>			<b>0</b>	<b>0</b>	<b>40K</b>			<b>Flood</b>
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**0600CST**

Coastal Flooding...A strong persistent southerly wind caused coastal flooding and beach erosion from Orange Beach to Dauphin Island for the second month in a row. The tide gage at the Alabama state Docks reached a little over three feet around 200 am. The west bound lanes of the causeway had to be closed for a while due to high water and debris in the road. Highway 193 leading to the Dauphin Island Bridge had water blown across it by the crashing waves.

### **Covington County**

**Andalusia**

<b>08</b>	<b>0200CST</b>			<b>0</b>	<b>0</b>	<b>1K</b>			<b>Lightning</b>
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Lightning struck a trailer and a house near Andalusia. Both homes suffered only minor electrical damage.

### **Covington County**

**Andalusia**

<b>08</b>	<b>0400CST</b>			<b>0</b>	<b>0</b>				<b>Hail (0.75)</b>
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**0401CST**

Dime size hail was reported near Andalusia.

### **Covington County**

**Lockhart**

<b>08</b>	<b>0400CST</b>			<b>0</b>	<b>0</b>	<b>3K</b>			<b>Thunderstorm Wind (G50)</b>
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**0402CST**

Trees and power lines were blown down near Lockhart.

### **Baldwin County**

**Bay Minette**

<b>08</b>	<b>0530CST</b>			<b>0</b>	<b>0</b>	<b>20K</b>			<b>Lightning</b>
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Lightning struck two different homes in the Bay Minette area. The strikes started fires that were both quickly put out and only minor damage occurred.

### **Escambia County**

**Brewton**

<b>08</b>	<b>1350CST</b>			<b>0</b>	<b>0</b>				<b>Hail (0.75)</b>
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**1351CST**

Dime size hail was reported just northeast of Brewton.

### **Butler County**

**Greenville**

<b>08</b>	<b>1435CST</b>			<b>0</b>	<b>0</b>	<b>3K</b>			<b>Thunderstorm Wind (G50)</b>
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**1437CST**

Trees and power lines were blown down just west of Greenville.

### **Butler County**

**Greenville**

<b>08</b>	<b>1530CST</b>			<b>0</b>	<b>0</b>				<b>Hail (0.75)</b>
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**1532CST**

Dime size hail was reported just south of Greenville.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## ALABAMA, Southwest

### **Crenshaw County Petrey**

<b>08</b>	<b>1600CST 1601CST</b>				<b>0</b>	<b>0</b>	<b>5K</b>		<b>Thunderstorm Wind (G50)</b>
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High winds blew a barn down. A few trees were also blown down in the area. A couple of vehicles were also damaged by the fallen trees.

### **ALZ063>064**

<b>Lower Mobile - Lower Baldwin</b>									
<b>17</b>	<b>1000CST 1700CST</b>				<b>0</b>	<b>0</b>	<b>30K</b>		<b>Flood</b>

Coastal Flooding...Southeast winds increased behind an area of eastward moving thunderstorms to 20 to 30 knots, with gusts to near 45 knots, for several hours. The winds were likely the result of a Bubble High developing behind the eastward moving thunderstorms. Beach erosion again occurred from Orange Beach to Dauphin Island. Eastbound lanes across the causeway had to be closed because of high water and debris. The tides around Orange Beach were 4 to 6 feet above normal during this time. The high winds also extended inland for five to ten miles and lasted for three to four hours.

## ALASKA, Northern

### **AKZ001**

<b>Arctic Slope Coastal</b>									
<b>05</b>	<b>0900AST 1500AST</b>				<b>0</b>	<b>0</b>			<b>Blizzard</b>

Blizzard conditions occurred at Point Lay only, under east winds gusting as high as 36 kts.

### **AKZ007**

<b>Tanana Valley</b>									
<b>17</b>	<b>1300AST 1700AST</b>				<b>0</b>	<b>0</b>			<b>High Wind (G47)</b>

A weather front moved north across the Alaska Range, producing strong southerly winds for a time at Healy (maximum gust 47 kt) and Delta Junction (maximum gust 43 kt).

### **AKZ009**

<b>St. Lawrence Island-Bering Strait Coast</b>									
<b>22</b>	<b>0300AST 1700AST</b>				<b>0</b>	<b>0</b>			<b>Blizzard</b>

### **AKZ009**

<b>St. Lawrence Island-Bering Strait Coast</b>									
<b>22</b>	<b>0400AST 0600AST</b>				<b>0</b>	<b>0</b>			<b>High Wind (G49)</b>

A Weather Front moved northeast across the North Central Bering Sea bringing Blizzard conditions to Savoonga, for several hours, and possibly to the Bering Strait Coast. High winds also occurred at Gambell: 41 kt sustained, gust 49 kt.

### **AKZ001**

<b>Arctic Slope Coastal</b>									
<b>24</b>	<b>0600AST 1900AST</b>				<b>0</b>	<b>0</b>			<b>Blizzard</b>

Blizzard Conditions occurred in the Prudhoe Bay Area with east winds gusting between 35 and 40 kts. Conditions were reported at Prudhoe Bay, Deadhorse, and Kuparuk.

### **AKZ007**

<b>Tanana Valley</b>									
<b>25</b>	<b>1800AST</b>				<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
<b>27</b>	<b>0700AST</b>								

A weakening low pressure center tracked from the Gulf of Alaska northeast across the far eastern Tanana Valley slowly during this period, resulting in a large amount of snow right near the Canada Border. The Alcan Border Cooperative Observing Site reported a 24-hour snowfall amount of 13 inches on the morning of the 26th, and another 8 inches on the morning of the 27th. Northway, about 60 miles to the west, received only 6 inches during the 37-hour period.

### **AKZ003-006-009>010**

<b>Lower Kobuk Valley-Northern Seward Peninsula - Southern Seward Peninsula-Eastern Norton Sound - St. Lawrence Island-Bering Strait Coast - Yukon Delta</b>									
<b>30</b>	<b>1300AST</b>				<b>0</b>	<b>0</b>			<b>Blizzard</b>
<b>31</b>	<b>1400AST</b>								

A strong low pressure center moved north in the Bering Sea, decelerating, but weakening only slowly. This storm produced blizzard and near-blizzard conditions across much of the West Coast of Alaska, notably Cape Romanzof (Zone 10), Nome (Zone 6), Gambell (Zone 9), and Point Hope (Zone 3).

## ALASKA, Southeast

### **AKZ025**

<b>Juneau Borough-Admiralty Island-Icy Strait Area</b>									
<b>08</b>	<b>0600AST</b>				<b>0</b>	<b>0</b>			<b>High Wind (G48)</b>
<b>09</b>	<b>1100AST</b>								

Strong gap winds (known locally as Taku winds) occurred in downtown Juneau as a result of a tight pressure gradient between a deep low in the Northeast Pacific and a strong arctic high in the Yukon. The peak wind recorded during the event was 48 kt at Mayflower Island.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property Damage	Crops	

## ALASKA, Southern

<b>AKZ011-018&gt;019</b>	<b>Kuskokwim Delta - Kodiak Island-Eastern Alaska Peninsula - Western Alaska Peninsula</b>	<b>04</b>	<b>1200AST</b>			<b>0</b>	<b>0</b>		<b>High Wind (G54)</b>
		<b>06</b>	<b>1800AST</b>						
	Southeasterly winds ahead of a moderate frontal system gusted up to 62 mph at Cape Newenham, 44 mph at Port Heiden and 58 mph at Cold Bay Wednesday and Thursday. By Friday, the front had slipped east and southeast...extending from the Alaska Peninsula to 300 miles southeast of Kodiak Island. Local wind gusts of 44 mph were reported just south of the Kenai Peninsula, east southeast of the Barren Island area, early Friday.								
<b>AKZ020</b>	<b>Aleutian Islands</b>	<b>07</b>	<b>0000AST</b>			<b>0</b>	<b>0</b>		<b>High Wind (G50)</b>
		<b>2300AST</b>							
	Moderate low pressure over the extreme eastern Aleutians, coupled with moderate high pressure across the western Aleutians resulted in brisk northwest winds across much of the central Aleutians. Gusts reached 58 mph near Adak.								
<b>AKZ019</b>	<b>Western Alaska Peninsula</b>	<b>12</b>	<b>1200AST</b>			<b>0</b>	<b>0</b>		<b>High Wind (G45)</b>
		<b>2300AST</b>							
	A moderate front, associated with a strong 954mb low in the extreme northcentral Pacific moved across the Alaska Peninsula late Thursday. Easterly wind gusts reached 52 mph in advance of the front.								
<b>AKZ015&gt;018</b>	<b>Cook Inlet - Bristol Bay Coastal - Central Gulf Coast - Kodiak Island-Eastern Alaska Peninsula</b>	<b>16</b>	<b>0000AST</b>			<b>0</b>	<b>0</b>	<b>10K</b>	<b>High Wind (G58)</b>
		<b>18</b>	<b>0300AST</b>						
	Brisk easterly winds preceded a vigorous weather front as it passed northwestward into the mainland of Alaska. Speeds reached 67 mph at Portage between 7 and 8 am Tuesday, 64 mph at radio station KMXT in Kodiak which downed several trees and caused slight roof damage, 53 mph at King Salmon between 2 and 3am Tuesday and to 62 mph at Middleton Island between 2 and 3pm Tuesday.								
<b>AKZ015</b>	<b>Cook Inlet</b>	<b>18</b>	<b>0000AST</b>			<b>0</b>	<b>0</b>		<b>High Wind (G49)</b>
		<b>2200AST</b>							
	Pre-frontal winds created by a moderate to strong pressure gradient between Prince William Sound and northwestern Cook Inlet reached gusts to 56 mph. These winds are mainly due to "gap" wind conditions...similar to the Columbia Gorge conditions in Oregon. To a lesser extent, "mountain wave" conditions probably contributed to the gusty winds. The gusty winds primarily affected east Anchorage (including the Hillside areas) and areas adjacent to Potter Marsh which is at the outlet of Turnagain Arm.								
<b>AKZ020</b>	<b>Aleutian Islands</b>	<b>20</b>	<b>1800AST</b>			<b>0</b>	<b>0</b>		<b>High Wind (G50)</b>
		<b>21</b>	<b>2100AST</b>						
	A moderate front, associated with a strong 972mb low just northeast of the Kamchatka Peninsula, brought strong southerly winds to the Aleutians. Gusts reached 58 mph at Shemya late Friday and early Saturday just prior to frontal passage.								
<b>AKZ019&gt;020</b>	<b>Western Alaska Peninsula - Aleutian Islands</b>	<b>23</b>	<b>1200AST</b>			<b>0</b>	<b>0</b>	<b>60K</b>	<b>High Wind (G87)</b>
		<b>24</b>	<b>2100AST</b>						
	A rapidly intensifying low moved northeast across the central Aleutians Monday morning, deepening to 956mbs late Monday night. The low then tracked northeast into Bristol Bay early Tuesday, where it began to weaken. By Tuesday night, the low was located about 100 miles east southeast of Bethel and had weakened to 967mbs. Very shortly after this time, winds diminished below 40 mph. Initially, strong southeasterly winds preceded the storm...gusting as high as 88 mph at Cold Bay. On the back side of the low, however, very strong southwesterly winds affected the eastern Aleutians and Alaska Peninsula. Damage at Unalaska included vehicle and trailer damage, damage to houses caused by wind-born debris, and blown out windows to homes, cars and boats. Roofing was also damaged. Wind gusts in excess of 100 mph were reported in the Dutch Harbor/Unalaska area, where winds are channelled and greatly influenced by the surrounding mountains. In Cold Bay, structural damage occurred at several housing units.								
<b>AKZ017&gt;020</b>	<b>Central Gulf Coast - Kodiak Island-Eastern Alaska Peninsula - Western Alaska Peninsula - Aleutian Islands</b>	<b>27</b>	<b>0000AST</b>			<b>0</b>	<b>0</b>		<b>High Wind (G63)</b>
		<b>30</b>	<b>1800AST</b>						
	A strong 969mb low moved across the central Aleutians late Friday and early Saturday...weakening to 984mbs across the extreme northeast corner of Bristol Bay very early Sunday. The low then reformed eastward into the Gulf of Alaska Sunday, finally weakening to a 1007mb center just west of Cape Spencer in Southeast Alaska late Monday. While strong easterly winds to 50 mph preceded the storm, much stronger northwesterly winds were reported along the "back" side of the system...reaching speeds of 73 mph across the Aleutians and 58 mph across the Alaska Peninsula. Gusts from 55 to near 60 mph were recorded around Kodiak Island with gusts from 40 to 45 mph reported in parts of Prince William Sound on Sunday.								
<b>AKZ011-016-019&gt;021</b>	<b>Kuskokwim Delta - Bristol Bay Coastal - Western Alaska Peninsula - Aleutian Islands - Pribilof Islands</b>	<b>29</b>	<b>1800AST</b>			<b>0</b>	<b>0</b>		<b>High Wind (G58)</b>
		<b>31</b>	<b>2359AST</b>						





# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>ARKANSAS, Central and North Central</b>									
<b>Stone County</b> 2 S Fifty Six	05	1630CST			0	0			Hail (0.75)
<b>Sharp County</b> Ash Flat	05	1650CST			0	1			Lightning
									Lightning struck a house in Ash Flat. The bolt of lightning travelled into the house and exited from one of the walls. A man was in the room at the time and was struck by the lightning bolt as it exited the wall. He suffered some minor burns to the back of his head. He was later treated and released from a local hospital.
<b>Conway County</b> Morrilton	05	1725CST			0	0			Hail (0.75)
<b>Faulkner County</b> Springhill	05	1730CST			0	0			Hail (0.75)
<b>Cleburne County</b> Tumbling Shoals	05	1752CST			0	0			Hail (0.88)
<b>Pope County</b> 2 W Atkins	05	1825CST			0	0			Hail (0.75)
<b>White County</b> 3 N Searcy	05	1845CST			0	0			Hail (0.75)
									Dime size hail covered the ground.
<b>White County</b> Bradford	05	1857CST			0	0			Hail (1.75)
									Golfball size hail covered the ground.
<b>Woodruff County</b> Augusta	05	1900CST			0	0			Lightning
									Lightning struck the county courthouse clock tower. The only damage noted was some roof shingles ripped off.
<b>Woodruff County</b> Mc Crory	05	1915CST			0	0			Hail (0.75)
<b>Drew County</b> 6 E Monticello	07	0915CST 0917CST			0	0			Hail (1.75)
									Golfball size hail covered the ground.
<b>Calhoun County</b> Hampton	07	1040CST			0	0			Hail (0.75)
<b>Polk County</b> Cove	07	1210CST			0	0			Hail (1.00)
<b>Scott County</b> 10 W Waldron	07	1245CST			0	0			Hail (0.88)
<b>Pike County</b> 1 N Kirby	07	1405CST			0	0			Hail (0.75)
<b>ARZ007</b>	10	1830CST			1	0			Extreme Cold
									Unseasonably cold air overspread much of Arkansas in the first half of March. A man, who was restricted to a wheelchair, ventured outside in the very cold weather. He overturned in his wheelchair and was unable to get back up into it. After a period of several hours outdoors exposed to the cold air, he was eventually discovered, but later died from hypothermia. M44OU
<b>Jefferson County</b> Pine Bluff	16	1945CST 2145CST			0	0			Flash Flood
									Heavy rains caused flash flooding in Pine Bluff. Several streets were underwater for a period of time.
<b>Clark County</b> Arkadelphia	19	0725CST			0	0			Hail (0.75)
<b>Clark County</b> Caddo Vly	19	0740CST			0	0			Thunderstorm Wind (G50)
									Thunderstorm winds knocked down some power lines.
<b>Newton County</b> Jasper	27	1415CST			0	0			Thunderstorm Wind (G50)
									Thunderstorm winds damaged the roof of a building.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>ARKANSAS, Central and North Central</u></b>									
<b>Jackson County</b> Newport Muni Arpt	27	1913CST			0	0			Thunderstorm Wind (G50)
									Thunderstorm winds damaged an airplane at the airport in Newport.
<b>Johnson County</b> Knoxville	30	2230CST			0	0			Hail (0.75)
<b>Johnson County</b> Lamar	30	2230CST			0	0			Hail (2.75)
<b>Van Buren County</b> 1 W Clinton	31	0030CST			0	0			Thunderstorm Wind (G50)
									Thunderstorm winds downed some large tree limbs.
<b>Saline County</b> Paron	31	0130CST			0	0			Thunderstorm Wind (G50)
									Thunderstorm winds knocked down a few trees.
<b>Pulaski County</b> Macon	31	0208CST			0	0			Hail (1.00)
<b>Lonoke County</b> Austin	31	0230CST			0	0			Thunderstorm Wind (G50)
									Several large tree limbs were knocked down.
<b>Lonoke County</b> Lonoke	31	0355CST			0	0			Thunderstorm Wind (G50)
									Thunderstorm winds damaged a camper and the roof of a building.
<b><u>ARKANSAS, East</u></b>									
<b>Cross County</b> Wynne	05	2005CST 2010CST			0	0	0.75K		Hail (1.75)
<b>Craighead County</b> Jonesboro	27	1700CST 1705CST			0	0	1K		Thunderstorm Wind
									Some trees were knocked down.
<b>Lawrence County</b> Portia	27	2209CST 2215CST			0	0	0.01K		Hail (0.75)
<b><u>ARKANSAS, Northwest</u></b>									
<b>Washington County</b> Greenland	05	1230CST			0	0			Hail (0.75)
<b>Madison County</b> Wesley	05	1258CST			0	0			Hail (0.88)
<b>Madison County</b> Huntsville	05	1325CST			0	0			Hail (0.75)
<b>Carroll County</b> 3 SW Eureka Spgs	05	1335CST			0	0			Hail (0.75)
									Thunderstorms formed over northwest Arkansas during the early afternoon of March 5 to the north of a surface stationary front over southern Arkansas. Surface temperatures on the cool side of the front in the 40s. Unstable air aloft and the approach of a wave of low pressure along the front were enough to fire off the thunderstorms north of the surface front. The only severe reports with these storms were in the form of dime to nickel-sized hail.
<b>Sebastian County</b> Ft Smith	07	1500CST			0	0			Hail (0.75)
<b>Crawford County</b> Van Buren	07	1505CST			0	0			Hail (0.75)
<b>Washington County</b> Lincoln	07	1520CST			0	0	0.50K		Thunderstorm Wind
									Pieces of barn on road near Lincoln
<b>Washington County</b> Fayetteville	07	1535CST			0	0	0.20K		Thunderstorm Wind
									Tree downed on a road on the west side of Fayetteville.
									A powerful early spring storm system moved across Oklahoma and Arkansas during the day on March 7. Severe thunderstorms developed during the mid-afternoon over extreme eastern Oklahoma and then moved into western Arkansas around 3:00 PM.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<b>ARKANSAS, Northwest</b>									
<b>Sebastian County</b> Ft Smith	19	0251CST			0	0	5K		Thunderstorm Wind
									Power lines downed by tstm winds on west side of city
<b>Crawford County</b> 3 W Alma	19	0300CST			0	0	4K		Thunderstorm Wind
									Barn blown down and utility shed blown down A broken line of severe thunderstorms developed along and south of I-40 over southeast Oklahoma during the early morning hours of March 19. The thunderstorms were in advance of a low pressure system moving along the Red River. The storms entered Arkansas around 245 AM and caused strong tstm winds in Crawford and Sebastian Counties.
<b>ARZ001&gt;002-010&gt;011-019&gt;020-029</b>			<b>Benton - Carroll - Washington - Madison - Crawford - Franklin - Sebastian</b>						
	27	0800CST 1500CST			0	0	5.1K		High Wind
									A powerful spring storm moved quickly across Kansas and Missouri on March 27. High winds from the south developed across northwestern Arkansas during the late morning and early afternoon in advance of, but not directly associated with, a band of showers. (The showers themselves were non-severe and did not produce cloud-to-ground lightning until they got into central Arkansas.) For up to three hours in advance of the showers, widespread gradient winds were sustained above 30 miles an hour with frequent gusts over 40 miles an hour. Gusts of 50 to 60 miles an hour were not uncommon. Fayetteville's Drake Field had a peak gust for the day of 45 miles an hour, and the Fort Smith Regional Airport had a peak gust for the day of 49 miles an hour.  Power lines were blown down in Benton County around 11:00 am. A large tree was blown over in front of a house on Dyer Street in Springdale around 11:30 am.
<b>Benton County</b> Siloam Spgs	30	2000CST			0	0	0.10K		Thunderstorm Wind
									Large tree blown down in city park
<b>Benton County</b> Gentry	30	2010CST			0	0	2K		Thunderstorm Wind
									Power lines blown down near Gentry
<b>Washington County</b> Prairie Grove	30	2021CST			0	0			Thunderstorm Wind (G52)
<b>Washington County</b> Fayetteville	30	2024CST			0	0			Thunderstorm Wind (G52)
<b>Benton County</b> 1 S Gravette to .5 E Gravette	30	2025CST 2027CST	1.2	125	0	0	100K		Tornado (F1)
									Considerable damage was reported with an F1 tornado and thunderstorm winds that blew through Gravette. Three homes in the area were damaged when large trees blew over. One of the houses' occupants described the storm as sounding like a freight train. Other homes had minor roof damage. High winds downed a power line, which left the east side of the city without power for about 35 to 40 minutes. Doors were blown out of the Hendren Plastics plant on Hwy. 72 in eastern Gravette. A tree was blown onto Hwy. 72 near Gravette, making travel impossible until it was removed around 10 pm. Another tree was blown across Ridge Road.
<b>Benton County</b> Bella Vista	30	2035CST			0	0	35K		Thunderstorm Wind
									Numerous trees blown down in Bella Vista. Newspaper clipping cited "trees down on cars,...trees down on houses,...and trees down on streets." Power lines blown down causing power outages.
<b>Crawford County</b> 8 S Mountainburg	30	2045CST			0	0			Hail (0.88)
<b>Crawford County</b> Van Buren	30	2056CST			0	0			Hail (0.75)
									Near Hwy. 282 and I-540
<b>Sebastian County</b> Hartford	30	2110CST			0	0	0.20K		Thunderstorm Wind
									Sheet metal blown off shed
<b>Washington County</b> 2 E Elkins	30	2115CST			0	0			Thunderstorm Wind (G52)
<b>Madison County</b> Huntsville	30	2125CST			0	0			Thunderstorm Wind (G52)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## ARKANSAS, Northwest

### **Madison County Huntsville**

**30 2140CST 0 0 0.10K Thunderstorm Wind**

Several large tree limbs downed by wind  
A solid line of thunderstorms covering the entire north-south length of Oklahoma, associated with a cold front and wave of low pressure, moved into western Arkansas around 800 PM on the evening of March 30. The part of the line moving out of eastcentral Oklahoma had a bow echo signature as it moved into Arkansas, causing many reports of severe tstm winds. At the north end of this bow echo in Benton County, an F1 tornado formed near Gravette, causing considerable damage on the south and east sides of town.

## ARKANSAS, Southeast

### **Ashley County Fountain Hill**

**07 0855CST 0 0 100K Hail (1.75)**

Golfball size hail accumulated three inches deep. The hail damaged roofs of houses and automobiles.

### **Ashley County Milo**

**07 0855CST 0 0 100K Hail (1.75)**

Many houses and automobiles were damaged.

### **Ashley County Milo**

**07 0855CST 0 0 75K Thunderstorm Wind**

Four houses were damaged and four barns were demolished.

## ARKANSAS, Southwest

### **Little River County Foreman**

**05 1550CST 0 0 Hail (1.75)**

Reports of golfball sized hail received from Sheriffs Office.

### **Miller County Texarkana**

**05 1630CST 0 0 Hail (1.00)**

### **Lafayette County Lewisville**

**05 1707CST 0 0 Hail (0.75)**

### **Lafayette County 4 S Lewisville**

**05 1710CST 0 0 10K Hail (1.25)**

Vehicles travelling along Hwy 79 had their windshields and antennas broken or damaged by hail.

### **Columbia County 4 S Magnolia**

**05 1734CST 0 0 Hail (1.75)**

### **Columbia County Magnolia**

**05 1743CST 0 0 Hail (0.75)**

### **Columbia County 4 S Magnolia**

**05 1746CST 0 0 Hail (1.75)**

### **Columbia County Emerson**

**05 1756CST 0 0 Hail (0.75)**

### **Howard County 5 NW Nashville**

**07 0840CST 0 0 Hail (0.75)**

### **Union County 7 W El Dorado**

**16 1900CST 0 0 Flash Flood**

A car turned over in high water as it attempted to cross over Parkers Chapel Road.

### **Miller County 4 SE Texarkana**

**31 0020CST 0 0 Thunderstorm Wind (G60)**

## CALIFORNIA, Extreme Southeast

### **CAZ030**

**Joshua Tree National Park**

**28 1100MST 0 0 Heavy Snow**  
**1430MST**

An unseasonably cold and strong weather disturbance moved through southeastern California. Snow levels dropped to around 3500 feet. Snow showers developed late in the morning at the higher elevations of Joshua Tree National Park and continued into mid-afternoon. Around 2 inches of snow fell at Key's View, elevation 5200 feet, and 6 inches at Covington, elevation 4000 feet.

## CALIFORNIA, North Central

### **CAZ016**

**Central Sacramento Valley**

**01 0001PST 0 0 Flood**  
**31 2359PST**

Portions of Glenn and Colusa continued to suffer from inundation due to February rains (damage estimates are included in February report).

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## CALIFORNIA, North Central

### Stanislaus County Newman

02 0001PST 0 0 Urban/Sml Stream Fld  
03 0630PST

Heavy rains, estimated around 2.5 inches in 30 hours, caused enough flooding to require some evacuation of homes in the town of Newman. The rainfall also closed down State Route 33.

### CAZ013>014-064-066>069

**Shasta Lake/North Shasta County - Burney Basin/Eastern Shasta County - Clear Lake/Southern Lake County - Northeast Foothills/Sacramento Valley - Motherlode/Camptonville To Goverland - Mt Shasta/Western Plumas County - West Slope Northern Sierra Nevada**

05 0900PST 0 0 Winter Storm  
06 0200PST

A very cold storm brought snow as low as 2000 feet MSL in the mountains of interior northern California. Snowfall amounts at the 2000 foot level were 2-6 inches, and largest accumulations at the higher elevations measured around 12 inches. The snowfall closed a stretch of Interstate 80 for a few hours during the afternoon.

### Shasta County Countywide

23 1530PST 0 0 Heavy Rain  
2330PST

Rainfall rates of 4 inches in 8 hours caused mudslides that closed Interstate 5 and six other roads in the county.

### Yolo County Davis

25 1250PST 0 0 0 0 Funnel Cloud  
1300PST

### Solano County Vallejo

25 1400PST 0 0 0 0 Funnel Cloud  
1410PST

### San Joaquin County Stockton

25 1445PST 0 0 0 0 Funnel Cloud  
1500PST

### Solano County Vacaville

25 1500PST 0 0 Tstm Wind/Hail  
1545PST

Large amounts of small hail from a thunderstorm reduced visibility enough to be named as the major cause of three motor vehicle crashes on a stretch of Interstate 80. Each crash involved a large tractor trailer.

### CAZ013>014-066>069

**Shasta Lake/North Shasta County - Burney Basin/Eastern Shasta County - Northeast Foothills/Sacramento Valley - Motherlode/Camptonville To Goverland - Mt Shasta/Western Plumas County - West Slope Northern Sierra Nevada**

28 0001PST 0 0 Winter Storm  
2359PST

A snowstorm created whiteout conditions that closed Interstate 80 during the afternoon. Snow accumulated as low as 1700 feet in the Sierra Nevada, with as much as 12 inches measured in the higher elevations.

### San Joaquin County 8 SE Tracy

28 1720PST 0.1 10 0 0 1K Tornado (F0)  
1725PST

The small and brief tornado ripped up 60 feet of back fence on one home lot.

## CALIFORNIA, Northeast

### CAZ072

**Greater Lake Tahoe Area**  
05 0640PST 0 0 Heavy Snow  
06 0640PST

24 hour snow fall: Kirkwood Ski Area 18-24 inches above 7900 feet.

### CAZ071

**Lassen/Eastern Plumas/Eastern Sierra**  
23 0939PST 0 0 High Wind (G55)  
0940PST

Peak wind gust 55 knots at Doyle CA. No damage reported.

### CAZ071

**Lassen/Eastern Plumas/Eastern Sierra**  
27 0630PST 0 0 Heavy Snow  
28 0630PST

24 hour snow fall: Portola CA 7 inches.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>CALIFORNIA, Northwest</b>									
<b>CAZ003-076</b>			<b>North Coast Interior - Mendocino Interior</b>						
	<b>05</b>	<b>1100PST</b> <b>1800PST</b>			<b>0</b>	<b>0</b>			<b>Snow</b>
			Between 2 and 4 inches of snow fell above 3500 feet.						
<b>CAZ001&gt;003-076</b>			<b>Redwood Coast - Mendocino Coast - North Coast Interior - Mendocino Interior</b>						
	<b>06</b>	<b>0200PST</b> <b>0700PST</b>			<b>0</b>	<b>0</b>			<b>Freeze</b>
			Morning low temperatures dipped into the upper 20s.						
<b>Humboldt County</b>									
<b>5 S Eureka</b>	<b>22</b> <b>23</b>	<b>0700PST</b> <b>1700PST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
<b>Trinity County</b>									
<b>Hayfork</b>	<b>22</b> <b>23</b>	<b>0700PST</b> <b>1700PST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
<b>Trinity County</b>									
<b>Trinity Center</b>	<b>22</b> <b>23</b>	<b>0700PST</b> <b>1700PST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
			Small stream flooding on Coffee Creek at Trinity Center and around Hayfork in Trinity County. In Humboldt County, the Elk River flooded on the lower reaches.						
<b>CAZ001-003</b>			<b>Redwood Coast - North Coast Interior</b>						
	<b>23</b>	<b>0100PST</b> <b>1000PST</b>			<b>0</b>	<b>0</b>			<b>High Wind (G68)</b>
			Winds associated with a strong cold front peaked at 60 mph near Honeydew, 78 mph at an automated site above Maple Creek and 53 mph at the Eureka NWS office.						
<b>CAZ003-076</b>			<b>North Coast Interior - Mendocino Interior</b>						
	<b>31</b>	<b>0400PST</b> <b>1130PST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
			Significant late season snows fell as low as 1500 feet. US Highway 101 was closed by 5 inches of snow at Ridgewood Summit between Willits and Ukiah. Numerous locations reported 3 to 5 inches of snow.						
<b>CALIFORNIA, South Central</b>									
<b>CAZ020</b>			<b>Central San Joaquin Valley</b>						
	<b>13</b>	<b>1215PST</b> <b>2000PST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
			Due to locally heavy rain of 3/4 to 1" in less than an hour water moved over roadways in Northwest Fresno County...vicinity of 1 7 miles WSW of Mendota.						
<b>Fresno County</b>									
<b>5 N Kerman</b>	<b>13</b>	<b>1300PST</b> <b>1310PST</b>			<b>0</b>	<b>4</b>			<b>Hail (0.75)</b>
			A severe thunderstorm moved north toward Madera County depositing hail to a depth of 2" on the ground at points north and northeast of Kerman. The accompanying deluge of rain led to multiple crashes on area highways sending 4 people to area hospitals beginning around 1400 PST in the Fresno area.						
<b>Madera County</b>									
<b>7 SE Madera</b>	<b>13</b>	<b>1345PST</b> <b>1430PST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
			Torrential rain and small hail with thunderstorms clogged State Highway 99 with water closing the highway. Numerous vehicle accidents resulted from the flooded and piled-hail condition on the road 7 miles southeast of Madera.						
<b>Kern County</b>									
<b>32 S Bakersfield</b>	<b>13</b>	<b>1430PST</b> <b>1440PST</b>			<b>0</b>	<b>0</b>			<b>Hail (1.00)</b>
			As reported by California Highway Patrol between Laval Road and the scales on Interstate-5 at the base of the grapevine. 40-50 cars pulled over to wait for the storm to diminish.						
<b>Merced County</b>									
<b>Merced</b>	<b>24</b>	<b>1200PST</b> <b>2000PST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
			Torrential thundershowers flooded over 25 surface streets in Merced during the afternoon of the 24th.						
<b>Merced County</b>									
<b>2 N Merced</b>	<b>24</b>	<b>1400PST</b>			<b>0</b>	<b>0</b>			<b>Lightning</b>
			Power outage to 700 customers of PG&E.						



# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>CALIFORNIA, South Central</b>									
<b>Kern County</b> 5 E Maricopa	25	0553PST 0900PST			0	0			Urban/Sml Stream Fld
									Locally heavy rain led to runoff from the nearby Tehachapi Mountains flowing across Highway 166 east of Maricopa. The road was closed as a result of the flooding. No other damage reported.
<b>Merced County</b> Atwater	25	0940PST			0	0			Funnel Cloud
									Report received at 1600 PST by California Highway Patrol indicates funnel cloud sighted in Atwater. Reported to have touched the ground but no other reports and none of damage.
<b>Merced County</b> 5 S Livingston	25	1610PST			0	0			Funnel Cloud
									Spotter rerpport of funnel almost touching the ground.
<b>Merced County</b> 3 NW Merced	25	1625PST			0	0			Funnel Cloud
									Spotter report of funnel almost touching the ground northwest of Merced.
<b>CAZ022</b>			<b>Southern Sierra Nevada-Yosemite National Park To Kings Canyon</b>						
	28	0100PST 2200PST			0	0			Heavy Snow
									Mammoth Mountain received 9" of new snow this day...a Fish Camp spotter had 10" of new snow by 1600 PST.
<b>CAZ024</b>			<b>Kern County Mountains</b>						
	28	0200PST 2359PST			0	0			Heavy Snow
									Snow reports from spotters indicate that up to 14 inches of snow fell during the day 4 miles west of Tehachapi. Other reports to the southeast of Tehachapi showed 6" had fallen by 0930 AM. An inclement weather period for the higher terrain of Central California began on the 25th and extended to the 30th of the month. Mammoth Mountain in the high country of Madera County recorded a total of 34" of new snow over these 5 days. Snow exceeding heavy snow criteria occurred in CA Zones 22, 23, and 24 around the 28th. At North Fork at the 2800-foot elevation in CA Zone 22, 5-6" of new snow fell in a 12 hour period before 10AM on the 28th.
<b>Tulare County</b> 5 SE Earlimart	28	0845PST 2300PST			0	0			Flood
									The White River again breached its banks but water flows only affected State Highway 99 and farm land. There was minimal impact to the community of Earlimart this time. The higher water in the river was the result of widespread and heavy rain shower and thundershower activity.
<b>Kern County</b> Lamont	28	1050PST 2200PST			0	0			Urban/Sml Stream Fld
									Water levels in Caliente Creek raised as heavy rain showers and thundershowers occurred in and around Lamont brought substantial runoff into the creek.
<b>Kings County</b> 1 SE Armona to 1 NW Armona	28	1332PST 1350PST			0	0			Funnel Cloud
									Observed by 2 NWS employees and spotter. Hail ranging in size from 1/4 to 1/2 inch occurred 1 mile east of the funnel.
<b>Kings County</b> Lemoore	28	1600PST 1607PST			0	0			Urban/Sml Stream Fld
									Small hail (less than 1/2") and torrential rain accompanying a late afternoon thunderstorm led to street flooding in downtown Lemoore around 1600 PST.
<b>Merced County</b> Plainsburg	28	1614PST			0	0			Funnel Cloud
									Hail less than 3/4" in diameter and funnel reported by Merced County Sheriff.
<b>Madera County</b> 5 NW Madera to 2 SE Chowchilla	28	1630PST 1650PST			0	0			Hail (0.75)
									Spotter report of 3/4" hail swath from northwest to southeast along State Highway 99 in Madera County.
<b>Merced County</b> 5 S Merced	28	1715PST			0	0			Hail (0.75)
									Spotter report of 3/4" hail.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## CALIFORNIA, South Central

**Merced County**  
10 SE Merced to  
11 SE Merced

28      1625PST  
1633PST

0      0

Hail (1.00)

Merced County Sheriff reports plus reports from truck drivers indicated that hail was large and deep enough to cause cars to slide off State Highway 99 just north of the Merced/Madera County line.

**Madera County**  
Chowchilla Arpt

28      1635PST      0.3      5      0      0

Tornado (F0)

Tornado touched down on northwest edge of airport property, moved two belt loaders 25 feet, and then arced to south before dissipating. Pea-size hail accompanied the storm to such an extent that it reached 2 inches in depth in the area.

**Fresno County**  
3 SE (Fat) Air  
Terminal

28      1905PST

0      0

1K

Lightning

A lightning strike on a 120-foot tree exploded the tree and rained debris down onto a family exiting the house below. No injuries although 5 members of the family were stunned by lightning.

**Fresno County**  
Parlier

28      1915PST

0      0

Lightning

Reported by spotter during storm chase.

Numerous thunderstorms developed during the afternoon hours throughout much of Central California and reached severe limits in Merced and Madera Counties. The tornado at the Chowchilla Airport occurred with a severe thunderstorm warning of at least 10 minutes. Additional hail of 1/2" diameter, not reaching severe thresholds, also fell in Southwest Fresno County just west of Lemoore Naval Air Station.

**Fresno County**  
Huron to  
Kingsburg

28      1800PST  
1930PST

0      0

5.0M

Small Hail

**Tulare County**  
Visalia to  
Exeter

28      1930PST  
2030PST

0      0

5M

Small Hail

**Kern County**  
16 SE Bakersfield

31      2359PST

0      0

5.7M

Urban/Sml Stream Fld

Active thunderstorms in the Central San Joaquin Valley caused widespread crop damage to almonds, grapes, stone fruit, and lettuce. While not reaching severe size (3/4"), the hail stacked on the ground up to a couple of inches at sizes just less than 3/4" in diameter. Heavy rain accompanying the convective activity continued to plague and delay ag field operations for cotton planting, cantaloupes, and tomato processing. The damage in Fresno County was estimated at \$4.97M starting at Huron on the west side and progressing eastward through Sanger, Reedley, and Kingsburg. Further damage occurred in Tulare County where a band of damage occurred from mostly Visalia toward Exeter. The damage for 1,250 acres of hail-damaged plums was estimated at \$5M in Tulare County. Continued rain kept agricultural ground operations to a minimum with almost all application of herbicides, insecticides, and fertilizers conducted by agricultural aircraft in February and March.

In Kern County continued above normal rain brought continued small stream flow onto the Southern San Joaquin Valley floor. The loss of access and/or damage to farm land continued to add to the overall spring storm and heavy rain damage assessment to Central California agriculture. Bakersfield received 2.51" of rain in March compared to normal of approximately 1"...The last week saw 1.5" of that total.

## CALIFORNIA, Southeast

NONE REPORTED.

## CALIFORNIA, Southwest

**Orange County**  
8 W Huntington Beach

13      1710PST  
1720PST

0      0

Waterspout

**Orange County**  
8 W Huntington Beach  
to  
8 SW Huntington  
Beach

13      1712PST  
1737PST

0      0

Waterspout

Unstable conditions associated with a low pressure trough dropping down the California coast, spawned two waterspouts off of Huntington Beach. The waterspouts came very close to offshore platforms, but no damage was reported. These were part of a family of at least 6 waterspouts which a pilot report indicated stretched from near Seal Beach to Santa Catalina Island.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>CALIFORNIA, Southwest</b>									
<b>San Bernardino County</b>									
Hesperia	14	1257PST 1302PST			0	0			Funnel Cloud
A cut-off low pressure center drifting over southwestern California spawned convection over the high deserts. Besides hail and gusty winds, one of the squall lines produced a funnel cloud near Hesperia, which was visible for some 20 miles.									
<b>Orange County</b>									
San Clemente	25	1100PST 1500PST			0	0			Heavy Rain
<b>Orange County</b>									
San Clemente	25	1200PST 1600PST			0	0			Urban/Sml Stream Fld
A strong upper-level low pressure trough moved into southwestern California accompanied by areas of heavy rain and snow in the mountains. Most flooding was minor, but the rain was particularly heavy in San Clemente around midday when 3 to 4 inches of rain fell in just four hours. Water was gushing so hard down streets, that it pushed parked cars around and impeded uphill travel. City Hall was inundated with calls reporting flooding in homes and businesses.									
CAZ055>056-058			<b>San Bernardino County Mountains - Riverside County Mountains - San Diego County Mountains</b>						
	28	0000PST			0	0			Heavy Snow
	29	0900PST							
CAZ042			<b>Orange County Coastal Plain</b>						
	28	1000PST 2200PST			0	0			High Wind (G61)
CAZ043			<b>San Diego County Coasts</b>						
	28	1200PST 1600PST			0	1			Wind
CAZ058			<b>San Diego County Mountains</b>						
	28	2000PST			1	0			Cold
	29	0800PST							
		M24OT							
CAZ043			<b>San Diego County Coasts</b>						
	28	2030PST 2230PST			0	5	300K		Small Hail
<b>Riverside County</b>									
Lake Elsinore	29	1250PST 1300PST			0	0			Dry Microburst
<b>San Diego County</b>									
Dulzura	29	1508PST 1513PST			0	0			Funnel Cloud
A deep, upper-level low pressure trough produced unusually cold, late season winter storm conditions throughout southwest California. Strong winds developed behind the surface cold front on the twenty- eighth, and continued in the mountains into the twenty-ninth. Thirty to forty mph wind gusts were reported along the Orange County Coast much of the twenty-eighth. Peak gusts hit 60 mph at Huntington Beach, and 70 mph at Newport Beach. Two trees blew down onto cars in Huntington Beach, smashing one, damaging the other and breaking-up twenty feet of sidewalk. The strong winds knocked out power to 6000 customers as well. In San Diego County, a woman suffered broken ribs, and two cars were damaged when wind gusts to 35 mph blew down a tree in Escondido shortly after noon. Falling trees in Del Mar also damaged a garage and took down power lines in one neighborhood.									
Although it was late in the season, this storm was the coldest of the entire winter. An illegal immigrant died of exposure early on the twenty-ninth. His body was found in a shed in Jamul. Snow was reported as low as 2000 feet in the deserts. In the mountains, 1 to 3 feet of snow fell above 5000 feet, with generally 4 to 8 inches between 3000 and 5000 feet. Strong winds gusting as high as 60 mph accompanied the snowfall in some areas, resulting in heavy drifting and road closures. Along the coasts, and in the foothills, scattered showers and thunderstorms on the twenty-ninth produced enough ice pellets and hail to cover the ground one inch deep in some areas. Considerable damage was reported to flower and strawberry crops, and a 10 car pile-up on the I-15 near Deer Springs sent 5 people to area hospitals. In a Lake Elsinore neighborhood, an apparent microburst uprooted a tree and ripped two 20-foot sections of roofing tiles from a home. A funnel cloud was spotted that afternoon near Dulzura.									
<b>Orange County</b>									
1 SW Huntington Beach to Huntington Beach	31	0840PST 0845PST			0	0			Waterspout

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## CALIFORNIA, Southwest

**Orange County**  
1 N Huntington Beach 31 1020PST  
1024PST 0 0 Funnel Cloud

**Orange County**  
3 SSW El Toro Mcas 31 1034PST  
1038PST 0 0 Funnel Cloud

**Orange County**  
4 SSW El Toro Mcas 31 1044PST  
1054PST 0 0 Funnel Cloud

**San Diego County**  
5 W San Onofre 31 1100PST  
1110PST 0 0 Waterspout

**Orange County**  
2 SE Seal Beach to  
3 SE Seal Beach 31 1507PST  
1515PST 0 0 Funnel Cloud

Weak surface pressure gradients, and cool, unstable conditions in the wake of a major winter storm, set the stage for widespread funnel cloud and waterspout development off the Orange and northern San Diego County coasts during the morning hours. Law enforcement, lifeguards, and trained spotters reported at least 14 sightings of funnel clouds, at least two of which became waterspouts. One waterspout briefly hit the coast south of the Huntington Beach Pier but quickly dissipated near the Pacific Coast Highway without causing any damage.

**CAZ060** **Apple And Yucca Valleys**  
31 1400PST  
2000PST 0 0 High Wind (G44)

**CAZ055** **San Bernardino County Mountains**  
31 2000PST  
2359PST 0 0 Heavy Snow

A strengthening upper-level low pressure center and surface cold front produced high winds in the Victor Valley, and heavy snow in the San Bernardino Mountains. Victorville reported wind gusts to 51 mph. By midnight, up to eight inches of snow had fallen in Lake Arrowhead and Wrightwood.

## CALIFORNIA, Upper

**Siskiyou County**  
6 W Weed 12 1200PST  
13 1200PST 0 0 Heavy Rain

An intense low pressure system along the California coast caused locally heavy rains around the Mt. Shasta area Thursday and early Friday, March 12-13. Total rainfall ranged up to nearly two-and-a-half inches by midday Friday.

**Siskiyou County**  
Ft Jones 22 0800PST  
23 0800PST 0 0 Heavy Rain  
Rainfall 2.41 in during past 24 hrs.

**Siskiyou County**  
6 W Black Butte 22 1600PST  
23 1600PST 0 0 Heavy Rain  
Rainfall 3.84 in during past 24 hrs.

The wet storm system that soaked southern Oregon March 21-22 slid into northern California on the 22nd and 23rd. Rainfall reports ranged from 1.5 to nearly 4 inches in the Scott Valley through the 23rd. Several streams and rivers were near bankfull, resulting in localized flooding of two roadways near Ft. Jones.

## CALIFORNIA, West South Central

**Los Angeles County**  
Long Beach 13 1925PST  
1930PST 0 0 Funnel Cloud

A spotter in the community of Long Beach reported a funnel cloud.

**San Luis Obispo County**  
San Luis Obispo 24 1500PST  
25 0700PST 0 0 Urban/Sml Stream Fld

**Santa Barbara County**  
Goleta 24 1500PST  
25 0700PST 0 0 Urban/Sml Stream Fld

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## CALIFORNIA, West South Central

<b>Ventura County</b> Thousand Oaks	24	2200PST			0	0			Urban/Sml Stream Fld
	25	1345PST							

<b>Los Angeles County</b> Burbank	25	0200PST			0	0			Urban/Sml Stream Fld
		1700PST							

A Pacific storm brought another round of rain to Central and Southern California. Rainfall totals ranged from around one inch across coastal areas with up to four inches in the mountains. Fortunately, the rainfall only caused nuisance flooding. In San Luis Obispo, the Pacific Coast Highway was closed due to flooding. In Goleta, the rain backed up storm drains, producing numerous reports of minor urban flooding. Across Ventura county, urban flooding was reported in the communities of Ojai and Thousand Oaks. In Los Angeles county, flooding closed Vineland Avenue and the Golden State Freeway in the Burbank area.

<b>CAZ052&gt;054</b>	<b>Santa Barbara County Mountains - Ventura County Mountains - Los Angeles County Mountains Excluding The Santa Monica Range</b>								
	28	0100PST			0	0			Heavy Snow
	29	0200PST							

A Pacific storm brought heavy snow to the mountains of Southern California. At resort levels, snowfall amounts ranged from one foot at Snow Summit to three feet at Mount Baldy.

<b>CAZ052&gt;054-059</b>	<b>Santa Barbara County Mountains - Ventura County Mountains - Los Angeles County Mountains Excluding The Santa Monica Range - Antelope Valley</b>								
	31	1200PST			0	0			Heavy Snow
		2330PST							

A cold Pacific storm brought more snow to Southern California. With this storm, snow levels dropped down to 2000 to 2500 feet. In the mountains, Mount Wilson reported 8 inches of snow while Lockwood Valley reported 9 inches. With such low snow levels, significant snow accumulations were reported in the foothills. La Canada reported 5 inches of snow while up to 6 inches of snow fell in the foothills of Palmdale. In fact, heavy snow forced the closure of Highway 14 from Palmdale Boulevard to Aqua Dulce. Many trees were reported down due to the heavy, wet snowfall.

<b>Los Angeles County</b> Santa Monica	31	1330PST			0	0			Funnel Cloud
		1340PST							

A spotter in the Santa Monica area reported two funnel clouds.

## CALIFORNIA, Western

NONE REPORTED.

## COLORADO, Central and Northeast

<b>COZ050</b>	<b>Sedgwick And Phillips Counties</b>								
	01	1100MST			0	0	0		High Wind (G59)
		1500MST							

High wind gusts of 62 mph and 68 mph (54 kts and 58 kts) were recorded 4 miles east of Haxtun.

<b>COZ033&gt;034</b>	<b>Rabbit Ears &amp; Medicine Bow Ranges/Rocky Mountain National Park - Summit County/Mosquito Range/Indian Peaks</b>								
	04	0000MST			0	0	0		Heavy Snow
		1200MST							

Heavy snow fell in portions of the northern mountains. Snowfall totals included: 9.5 inches at Loveland Ski Area, 9 inches at Eldora and Winter Park, 8 inches at Arapahoe Basin and Berthoud Pass and 7 inches at Breckenridge Ski Area.

<b>COZ035&gt;036-038&gt;041-043</b>	<b>Northern Front Range Foothills/Upper Laramie And Cache La Poudre River Basins - Southern Front Range Foothills/Clear Creek Basin - Eastern Larimer And Northwestern Weld Counties - Eastern Boulder County/Boulder And Vicinity - Denver Metropolitan Area - Eastern Douglas And Western Elbert Counties/Castle Rock And Vicinity - Southern Weld County/Greeley And Vicinity</b>								
	06	1700MST			0	0	0		Heavy Snow
	07	1200MST							

Heavy snow fell in portions of the Front Range Foothills and adjacent plains. Snowfall totals included: 11 inches near the Chief Hosa Exit, 10 inches 3 miles west of Evergreen, 8.5 inches at Broomfield, 8 inches at Bailey with 7 inches 4 miles north of Fort Collins, North Thornton and at Standley Lake. Elsewhere snowfall totals ranged from 3 to 6 inches. Several accidents occurred along area roads and highways as they became snowpacked and slick.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of		Estimated		Character of Storm
					Killed	Injured	Property	Crops	

## COLORADO, Central and Northeast

<b>COZ033&gt;036-038&gt;041</b>	<b>Rabbit Ears &amp; Medicine Bow Ranges/Rocky Mountain National Park - Summit County/Mosquito Range/Indian Peaks - Northern Front Range Foothills/Upper Laramie And Cache La Poudre River Basins - Southern Front Range Foothills/Clear Creek Basin - Eastern Larimer And Northwestern Weld Counties - Eastern Boulder County/Boulder And Vicinity - Denver Metropolitan Area - Eastern Douglas And Western Elbert Counties/Castle Rock And Vicinity</b>								
	18	0200MST 2200MST			0	0		0	<b>Winter Storm</b>

Heavy snow fell from areas west of Interstate 25 to the Continental Divide as strong upslope conditions developed. Two to 3 1/2 feet of snow fell in the foothills with 1 to 2 feet reported along western portions of the Urban Corridor.

Snowfall totals included: 38 inches at Silver Spruce Ranch, 2 miles south of Ward, 35 inches at Aspen Springs, 33 inches near Blackhawk, 31 inches at Allenspark, 30 inches at Eldora, 29 inches at Coal Creel Canyon, 27 inches at Conifer, the Chief Hosa Exit and Nederland, 25 inches at Rollinsville and Gross Reservoir, 21 inches at Evergreen, 20 inches at Carter Lake, 15 to 19 inches at Broomfield, Lakewood, Table Mesa, 1 mile east of Buckhorn Mountain and Virginia Dale. Elsewhere snowfall amounts ranged from 8 to 14 inches.

### **Denver County Denver**

	29	1500MST			0	4		0	<b>Dry Microburst</b>
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Four children attending a birthday party were injured when a sudden gust of wind blew an inflatable playhouse they were occupying, into a neighbour's yard. The playhouse scraped the roof of the host's two story house, then landed in the adjoining yard. The children were treated for minor head injuries and cuts.

## COLORADO, East Central

### **Cheyenne County 3 SE Arapahoe**

	26	1830MST			0	0		1K	<b>Thunderstorm Wind (G70)</b>
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Estimated 60-80 mph thunderstorm wind gust blew small kitchen cabinet 30 feet into tree. Lifted children's wagon about 4 feet off ground. Garage window blown out. Empty 55 gallon drums rolled.

## COLORADO, South Central and Southeast

<b>COZ060&gt;061-065&gt;066-070-074&gt;075</b>	<b>La Garita Mountains - Eastern San Juan Mountains - Northern Sangre De Cristo Mountains - Southern Sangre De Cristo Mountains - Wet Mountains - Upper Huerfano River Basin/Walsenburg And Vicinity - Upper Purgatoire River Basin/Trinidad And Vicinity</b>								
	06	0500MST			0	0			<b>Winter Storm</b>
	07	2000MST							

A strong winter storm moved across southern Colorado...reaching the southeast plains late on the morning of the 7th. In addition to the heavy snowfall, strong gusty winds at 15 to 35 mph produced widespread blowing and drifting snow across the mountains. Snowfall totals ranged from 18 to 26 inches at Wolf Creek Pass and the town of Creede in the Eastern San Juan and La Garita mountains...8 to 10 inches at Cuchara in the southern Sangre de Cristo mountains...6 to 8 inches in Westcliffe and at Rye and Beulah in western Pueblo county and in the Wet mountains...and 4 to 6 inches across the southern foothills, including Walsenburg and Trinidad.

### **COZ060>081**

	<b>La Garita Mountains - Eastern San Juan Mountains - Northern San Luis Valley/Del Norte And Vicinity - Alamosa County/Alamosa And Vicinity - Southern San Luis Valley - Northern Sangre De Cristo Mountains - Southern Sangre De Cristo Mountains - Teller County/Rampart Range/Pikes Peak - Western Fremont And Northern Custer Counties - Upper Arkansas River Valley/Salida And Vicinity - Wet Mountains - Southern El Paso County/Colorado Springs And Vicinity - Northern El Paso County/Monument Ridge - Pueblo And Eastern Fremont Counties/Pueblo And Vicinity - Upper Huerfano River Basin/Walsenburg And Vicinity - Upper Purgatoire River Basin/Trinidad And Vicinity - Crowley And Otero Counties/La Junta And Vicinity - Eastern Las Animas County - Kiowa County - Bent County/Las Animas And Vicinity - Prowers County/Lamar And Vicinity - Baca County/Springfield And Vicinity</b>								
	18	0000MST			0	0			<b>Winter Storm</b>
	19	1000MST							

A strong winter storm system moved across western Colorado the morning of the 18th, reaching north central New Mexico by the evening. Heavy snow fell in many parts of south central and southeast Colorado on the 18th through the early morning of the 19th. The storm shut down nearly all except emergency services and caused numerous traffic accidents in Colorado Springs, where snowfall amounts ranged from 15 inches at the Colorado Springs airport to 34 inches near Monument Hill. Other snow amounts included: 1 to 4 inches across the southwest mountains with as much as 12 inches at Wolf Creek Pass, 1 to 4 inches across the San Luis Valley with as much as 10 inches in Antonito, 4 to 12 inches across the southeast foothills and high valleys, 15 to 20 inches across the eastern mountains with as much as 34 inches at Monument Hill, and 6 to 14 inches across all of the southeast plains.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## COLORADO, South Central and Southeast

**COZ061-067-074>075 Eastern San Juan Mountains - Teller County/Rampart Range/Pikes Peak - Upper Huerfano River Basin/Walsenburg And Vicinity - Upper Purgatoire River Basin/Trinidad And Vicinity**

26	1300MST	0	0		Heavy Snow
27	0800MST				

A weather disturbance tracked from southern Nevada across southern Colorado the afternoon and evening of the 26th through the early morning of the 27th, bringing a quick blast of snow to the south central mountains and southeastern foothills. Across the Eastern San Juan mountains, Santa Maria Reservoir in Mineral county received a storm total of 11 inches, while Creede received 8 inches. Across the southeast foothills, Trinidad and Walsenburg received around 6 inches of snow, while Woodland Park in Teller county tallied 4 inches.

**COZ060>061-065>067-070>075 La Garita Mountains - Eastern San Juan Mountains - Northern Sangre De Cristo Mountains - Southern Sangre De Cristo Mountains - Teller County/Rampart Range/Pikes Peak - Wet Mountains - Southern El Paso County/Colorado Springs And Vicinity - Northern El Paso County/Monument Ridge - Pueblo And Eastern Fremont Counties/Pueblo And Vicinity - Upper Huerfano River Basin/Walsenburg And Vicinity - Upper Purgatoire River Basin/Trinidad And Vicinity**

28	0000MST	0	0		Winter Storm
30	1500MST				

A strong winter storm system moved from the Great basin across southern Colorado, bringing heavy snow to the Eastern San Juan and La Garita mountains on the 28th through midday of the 29th. Wolf Creek Pass reported a storm total of 19 inches, and was closed because of deep snow and strong gusty winds. Creede and Santa Maria Reservoir reported 9 to 10 inches of snow. The storm continued to track east, bringing snow to the Sangre De Cristo mountains, the Wet mountains, Teller county, and the nearby foothills and plains on the 30th. Across this area snowfall totals ranged from 4 to 10 inches, with Woodland Park in Teller county reporting a storm total of 8 inches. Cuchara, in the southern Sangre de Cristo mountains, Beulah and Rye in the Wet mountains, and Walsenburg saw 8 to 10 inches of snow.

## COLORADO, West

**COZ004-010-012 Elkhead And Park Mountains/Flat Tops/White River Plateau - Gore And Elk Mountains/Central Mountain Valleys/Aspen And Vicinity - West Elk And Sawatch Mountains/Taylor Park**

04	0000MST	0	0		Heavy Snow
05	0000MST				

A moist westerly flow produced about a foot of new snow in most northern and central mountain areas of western Colorado. Heavier amounts included 18 inches at Steamboat Ski Area, 15 inches at Aspen Ski Area, and 15 inches at Snowmass Ski Area.

**COZ004-009>010-012-017>021-023 Elkhead And Park Mountains/Flat Tops/White River Plateau - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys/Aspen And Vicinity - West Elk And Sawatch Mountains/Taylor Park - Uncompahgre Plateau - Northwestern San Juan Mountains - Southwestern San Juan Mountains - Paradox Valley/Lower Dolores River - Four Corners/Upper Dolores River/Cortez And Vicinity - San Juan River Basin/Pagosa Springs And Vicinity**

05	2000MST	0	0		Winter Storm
07	0000MST				

A Pacific trough generally produced 8 to 12 inches of snow in most mountain areas of western Colorado as well as 6 to 10 inches in some lower elevation areas of southwest Colorado. Heavier amounts included 23 inches at Purgatory Ski Area, 18 inches at Telluride Ski Area, 18 inches at Fish Creek just northwest of Rico, and 16 inches at McClure Pass. Strong winds caused areas of blowing and drifting snow. Gusts of 50 to 65 MPH were reported in many mountain areas, while gusts of 40 to 50 MPH were observed at lower elevations.

**COZ002 Central Yampa River Basin/Craig-Hayden And Vicinity**

06	2100MST	0	0	0.50K	High Wind (G72)
	2130MST				

Strong winds associated with a cold front passage gusted to 83 MPH (72 knots) at the Yampa Valley Regional Airport near Hayden. The only known damage occurred to the anemometer cups which blew away.

**COZ010 Gore And Elk Mountains/Central Mountain Valleys/Aspen And Vicinity**

08	1500MST	1	0		Avalanche
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A skier triggered a soft-slab avalanche in Ophir Gulch while traversing beyond the boundary of the Aspen Mountain Ski Area at the 10,000 foot level. The avalanche path was 500 feet wide and carried the victim down 380 vertical feet. M43OU

**COZ001>002-007-009>010-012-018 Lower Yampa River Basin/Rangely And Vicinity - Central Yampa River Basin/Craig-Hayden And Vicinity - Debeque Rifle Glenwood Springs Corridor - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys/Aspen And Vicinity - West Elk And Sawatch Mountains/Taylor Park - Northwestern San Juan Mountains**

17	2000MST	0	0		Winter Storm
18	2000MST				

An upper low and surface cold front produced 10 to 20 inches of snow in the northwest San Juan Mountains as well as the central mountains of western Colorado. 6 to 10 inches of snow also fell in some of the lower elevation areas of northwest Colorado. Gusty

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## COLORADO, West

winds of 30 to 50 MPH produced areas of blowing and drifting snow.

**COZ002**

**Central Yampa River Basin/Craig-Hayden And Vicinity**

25	2230MST	0	0	60K	Flood
26	0500MST				

Unseasonably warm temperatures rapidly melted a large amount of snow at the headwaters of Fortification Creek, resulting in flooding along the Creek. Nearly 80 residences were impacted by the flood, with some basements and garages flooded. Sections of County Road 17 and County Road 7 were washed out. A bridge was also washed out.

**COZ018>019**

**Northwestern San Juan Mountains - Southwestern San Juan Mountains**

26	1800MST	0	0		Heavy Snow
27	0600MST				

An upper low brushed the western San Juan Mountains with 6 to 10 inches of new snow. Telluride Ski Area was the exception with 14 inches.

**COZ009-012-017>019**

**Grand And Battlement Mesas - West Elk And Sawatch Mountains/Taylor Park - Uncompahgre Plateau - Northwestern San Juan Mountains - Southwestern San Juan Mountains**

27	1600MST	0	0		Winter Storm
29	0800MST				

A moist southwest flow produced 10 to 20 inches of snow over most central and southern mountain areas of western Colorado. Some heavier amounts included 36 inches at Purgatory Ski Area, 31 inches at Coal Bank Pass, and 29 inches at Chattanooga near Red Mountain Pass. Wind gusts of 45 to 65 MPH were common in the mountains. Mount Abrams in the northwest San Juan Mountains had a peak gust of 86 MPH. The combination of heavy snow and strong winds resulted in over 50 known avalanches in the San Juan Mountains. The heavy snow and avalanches caused many road closures.

**Garfield County**

6 E Glenwood Spgs

27	2200MST 2215MST	0	1	20K	Heavy Rain
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Heavy rains triggered a rock slide onto I-70 in Glenwood Canyon. Boulders up to five feet in diameter smashed into two cars and damaged a section of the road and a guard rail. One person and a dog received minor injuries.

**COZ019**

**Southwestern San Juan Mountains**

29	0200MST	0	0	75K	Avalanche
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An avalanche destroyed a cabin 7 miles north-northeast of Silverton near Gladstone. The lone resident of the cabin managed to escape the ruins unharmed. At least 50 other avalanches were reported over the weekend in the San Juan Mountains.

**COZ004>005-010-018**

**Elkhead And Park Mountains/Flat Tops/White River Plateau - Upper Yampa River Basin/Steamboat Springs And Vicinity - Gore And Elk Mountains/Central Mountain Valleys/Aspen And Vicinity - Northwestern San Juan Mountains**

30	1500MST	0	0		Heavy Snow
31	0800MST				

A Pacific low produced 6 to 12 inches of snow in some mountain areas of western Colorado. Heavier amounts included 18 inches at Vail Ski Area, 15 inches at Steamboat Springs Ski Area, and 13 inches at Telluride Ski Area.

## CONNECTICUT, Northeast

**CTZ002>004**

**Hartford - Tolland - Windham**

08	1600EST	0	0		Heavy Rain
09	2200EST				

**CTZ002>004**

**Hartford - Tolland - Windham**

09	0800EST 2200EST	0	0		Strong Winds
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**Hartford County**

West Hartford to  
Southington

09	1300EST	0	0		Flood
10	1300EST				

**Windham County**

Warrenville

09	1600EST	0	0		Flood
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**CTZ002**

**Hartford**

11	1300EST	0	0		Flood
12	2300EST				

A powerful storm system moving slowly northeast from the Ohio Valley to the eastern Great Lakes brought strong winds and heavy rainfall to Connecticut, which resulted in urban street flooding, basement flooding, small stream flooding, and main stem river flooding. At times, the rainfall was torrential, especially in thunderstorms during the evening of March 9th.

Rainfall totals of 3 to 5 inches were reported across northern Connecticut. Some of the greatest totals included: Storrs, 4.86"; Willimantic, 4.50"; South Windsor, 4.00"; Glastonbury, 3.86"; Woodstock, 3.80"; Wethersfield, 3.77"; Newington and Scotland, 3.60"; and Southington, 3.56". A new record daily rainfall total for March 9th was established at Bradley International Airport,

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## CONNECTICUT, Northeast

Windsor Locks, with 2.40".

Several small streams flooded. The Quinnipiac River at Southington reached flood stage of 3.5 feet at 1:00 PM on March 9th, crested at 5.0 feet at 9:45 PM and then fell below flood stage at 11:00 AM on March 10th. One unidentified stream reached flood stage at 1:20 PM on March 9th at West Hartford. Another unidentified stream reached flood stage in Newington at 1:25 PM on March 9th. In Windham County, at Warrentonville, the Mount Hope River reached flood stage of 7 feet at 1:00 PM on March 9th, crested at 8.5 feet at 12:00 AM on March 10th, then fell below flood stage at 6:00 AM on March 10th.

The Connecticut River reached flood stage of 16 feet at Hartford at 1 PM on March 11th, crested at 16.9 feet at 10 AM on March 12th, then fell below flood stage at 11 PM on the 12th. The Farmington River at Simsbury crested at 11.7 feet at 9 PM on the 10th, just shy of flood stage, which is 12 feet.

Strong south winds occurred after the passage of a warm front during the mid to late morning hours. Winds gusted to 40 to 55 mph.

**CTZ002**

**Hartford**

<b>18</b>	<b>1800EST</b>	<b>0</b>	<b>0</b>	<b>Heavy Rain</b>
<b>19</b>	<b>1800EST</b>			

More than 2 inches of rain fell in parts of Hartford County. A total of 2.15 inches fell at Hartford in about a 24-hour period.

**CTZ002>003**

**Hartford - Tolland**

<b>21</b>	<b>2200EST</b>	<b>0</b>	<b>0</b>	<b>Heavy Snow</b>
<b>22</b>	<b>0800EST</b>			

A strong very early Spring nor'easter was caused by a low pressure system which moved to the north-northeast from the Virginia coast on March 21st, passing to the southeast of Cape Cod on March 22nd. This storm brought heavy snow to parts of northern Connecticut, which was mixed with periods of sleet. Snowfall totals of 6 to 9.5 inches were reported. The maximum total of 9.5 inches occurred at Stafford Springs, while some other amounts included: Windsor, 8.5 inches; Unionville and West Hartford, 6.5 inches; Newington, Avon, and Granby, 6.0 inches.

**CTZ002**

**Hartford**

<b>27</b>	<b>1543EST</b>	<b>0</b>	<b>0</b>	<b>Record Warmth</b>
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**CTZ002**

**Hartford**

<b>28</b>	<b>1135EST</b>	<b>0</b>	<b>0</b>	<b>Record Warmth</b>
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On March 27th, the high temperature at Bradley International Airport in Windsor Locks soared to 82 degrees, breaking the old record for the date of 76 degrees set back in 1945. On March 28th, the warmest March day on record was recorded at Bradley International Airport in Windsor Locks...the mean temperature for the day was 70 degrees, breaking the old record of 69 degrees on March 30, 1977. The high temperature for the day of 84 degrees broke the old record of 83 degrees set in 1989 and prior years.

**CTZ002**

**Hartford**

<b>30</b>	<b>1000EST</b>	<b>0</b>	<b>0</b>	<b>Flood</b>
<b>31</b>	<b>2359EST</b>			

Record warm temperatures produced a rapid snow melt across northern New England and the combined effects of rapid runoff and dam releases caused the Connecticut River to rise above flood stage of 16 feet at 10 AM, March 30th at Hartford. The river remained above flood stage into April...please see April Storm Data for further information. Flood-prone land outside of levee protection was affected.

**CTZ002**

**Hartford**

<b>31</b>	<b>1330EST</b>	<b>0</b>	<b>0</b>	<b>Record Warmth</b>
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At 1:30 PM, the temperature at Bradley International Airport, Windsor Locks, reached 89 degrees. This set a new all-time high temperature record for the month of March. The previous record was 87 degrees set on March 30, 1977. The high temperature of 89 also shattered the record high for the date of 71 degrees, set on March 31, 1986. Also, at many weather stations, the high temperatures on March 31st were the highest readings ever observed so early in the season.

## CONNECTICUT, Northwest

**CTZ001**

**Litchfield**

<b>14</b>	<b>0300EST</b>	<b>0</b>	<b>0</b>	<b>Winter Storm</b>
<b>15</b>	<b>0000EST</b>			

During March 14 and 15, an Alberta Clipper produced heavy snow over northwest Connecticut. The greatest snowfall occurred in the higher elevations. Due to the heavy wet snow, over sixty accidents were reported across the county. Ten inches of snow fell at Norfolk.

**CTZ001**

**Litchfield**

<b>21</b>	<b>0200EST</b>	<b>0</b>	<b>0</b>	<b>Wintery Mix</b>
<b>22</b>	<b>1200EST</b>			

During March 21 and 22, a coastal storm produced a mix of snow, sleet and freezing rain across Litchfield County. Snow totals in this region generally ranged from 1 to 3 inches before the precipitation changed to a mix of sleet and freezing rain.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## CONNECTICUT, Northwest

<b>CTZ001</b>	<b>Litchfield</b>								
	<b>27</b>	<b>1200EST</b>			<b>0</b>	<b>0</b>			<b>Excessive Heat</b>
	<b>31</b>	<b>1900EST</b>							

The end of March was a period of record heat across northwest Connecticut as strong high pressure off the Mid-Atlantic coast produced a persistent southerly flow. From March 27 through March 31, daily high temperatures ranged from the upper 70s to around 90.

## CONNECTICUT, Southern

<b>Fairfield County</b>									
<b>Countywide</b>	<b>09</b>	<b>0100EST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
		<b>1800EST</b>							
<b>New Haven County</b>									
<b>Countywide</b>	<b>09</b>	<b>0100EST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
		<b>1800EST</b>							
<b>New London County</b>									
<b>Countywide</b>	<b>09</b>	<b>0200EST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
		<b>2000EST</b>							

Two low pressure systems formed along a front over the Southeast U.S. One low formed over the Western Gulf of Mexico and another formed off the Southeast U.S. Coast. As both lows moved north-northeast, they intensified. A strong moist east wind flow developed ahead of the approaching strong warm front.

This system produced widespread heavy rainfall including thunderstorms that caused widespread urban and small stream flooding as well as river flooding. Many low-lying and poor drainage areas, including streets were flooded throughout the area.

A 250 foot stretch of Steamboat Road in Greenwich was closed due to flooding. The Still River in Danbury overflowed its banks behind the Danbury Fair Mall and in back of Stew Leonard's on Federal Road. In Newtown, a dam split, causing the Pootatuck River to rise. Employees inside two mills along the river evacuated. In Naugatuck, water inundated several home basements. Widespread urban and small stream flooding also occurred in New London County.

Rainfall began around 1:30 pm on March 8th across coastal Connecticut and spread north by 5 pm. It became heavy and produced flooding at the times shown above.

This system also produced strong wind gusts from 40 to 55 mph that in combination with the heavy rain caused some tree limbs to fall along with scattered power outages. A vessel sank in the waters off Pear Tree Point Beach (Fairfield County) around 5:25 am on Monday, March 9th.

Rainfall amounts generally ranged from around 2 1/2 to just over 4 inches. Here are selected rainfall amounts:

- o For Fairfield County, from 2.52 inches at Bridgeport to 3.08 inches at Danbury. A new daily rainfall record of 1.98 inches was set at Bridgeport. The old record was 0.48 inches in 1995.
- o For New Haven County, from 3.19 inches at Ansonia to 4.10 inches at North Branford.
- o For New London County, from 2.95 inches at Groton to 3.89 inches at the Norwich Public Utilities.

<b>CTZ006-008-010</b>	<b>Northern New Haven - Northern New London - Southern New Haven</b>								
	<b>09</b>	<b>0800EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>11</b>	<b>0600EST</b>							

Two low pressure systems formed along a front over the Southeast U.S. One low formed over the Western Gulf of Mexico and another formed off the Southeast U.S. Coast. As both lows moved north-northeast, they intensified. A strong moist east wind flow developed ahead of the approaching strong warm front.

This system produced widespread heavy rainfall including thunderstorms that caused moderate river flooding and widespread urban and small stream flooding across the area.

The Wepawaug River at Milford (Southern New Haven County) was at or above its flood stage from 12:15 pm on March 9th through 5:30 am on March 10th. It crested at 4.80 feet (0.80 feet above its flood stage) on March 9th around 8:30 pm.

The Quinnipiac River at Wallingford (Northern New Haven County) was at or above its flood stage from 8 am on March 9th through 6 am on March 11th. It crested at 10.24 feet (3.24 feet above its flood stage) on March 9th around 11:05 pm.

The Yantic River at Norwich (Northern New London County) was at or above its flood stage from 8:30 pm on March 9th through

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	

## CONNECTICUT, Southern

6:15 pm on March 10th. It crested at 11.14 feet (3.14 feet above its' flood stage) on March 10th around 1:45 am. The hardest hit areas along the river reach were near Yantic Flats up to Fireman's Field. The river also overflowed its' banks further downstream in the Norwich Town Mall, which sent water into the parking lot.

Rainfall began around 1:30 pm on March 8th across Southern New Haven County and spread north by 5 pm. It became heavy and produced river flooding. Rainfall amounts generally ranged from 2 to 4 inches. Here are selected rainfall amounts:

- o For New Haven County, from 2.87 inches at Milford to 4.10 inches at North Branford.
- o For Northern New London County, from 3.31 inches at Jewett City to 3.89 inches at the Norwich Public Utilities.

### **Middlesex County Countywide**

<b>09</b>	<b>1000EST 1900EST</b>	<b>0</b>	<b>0</b>	<b>Flood</b>
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Two low pressure systems formed along a front over the Southeast U.S. One low formed over the Western Gulf of Mexico and another formed off the Southeast U.S. Coast. As both lows moved north-northeast, they intensified. A strong moist east wind flow developed ahead of the approaching strong warm front.

This system produced widespread heavy rainfall including thunderstorms that caused serious widespread urban, small stream, and river flooding. Twenty residents in Clinton, Middletown, Portland, Haddam, Durham and Middlefield had to evacuate their homes due to flooding. Torrential rain caused rapids to form on River Road in Middletown and caused a car to flip over in Cromwell at Route 3 and Sanford Lane. Parts of River Road were washed out. Significant flooding occurred in the area of Beaver Meadow Road, Candlewood Hill, and Hidden Lake. The Hidden Lake Causeway was closed to traffic for several hours because of flooding.

Rainfall began around 1:30 pm on March 8th across coastal Middlesex County and spread north by 5 pm. It became heavy and produced flooding at the times shown above. Rainfall amounts ranged from 3 to 5 inches across the County.

This system also produced strong wind gusts from 40 to 55 mph that in combination with the heavy rain caused some tree limbs to fall along with scattered power outages.

## DELAWARE

### **Kent County Countywide**

<b>08</b>	<b>1100EST</b>	<b>0</b>	<b>0</b>	<b>Heavy Rain</b>
<b>09</b>	<b>1000EST</b>			

### **New Castle County Countywide**

<b>08</b>	<b>1100EST</b>	<b>0</b>	<b>0</b>	<b>Heavy Rain</b>
<b>09</b>	<b>1000EST</b>			

### **Sussex County Countywide**

<b>08</b>	<b>1100EST</b>	<b>0</b>	<b>0</b>	<b>Heavy Rain</b>
<b>09</b>	<b>1000EST</b>			

### **New Castle County Coochs Bridge**

<b>09</b>	<b>0845EST 1400EST</b>	<b>0</b>	<b>0</b>	<b>Flood</b>
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Rain overspread Delaware during the late morning on the 8th preceding a low pressure system's warm front. The heaviest rain in the state fell during the afternoon on the 8th and again during the morning of the 9th before it ended. This caused some urban and poor drainage flooding and the second surge of heavy rain pushed the Christina River over its banks during the second half of the morning into the early afternoon on the 9th. At Coochs Bridge, the Christina River exceeded its 9 foot flood stage from 845 a.m. EST through 2 p.m. EST on the 9th. It crested at 10.1 feet at 1045 a.m. EST. Storm totals throughout the state averaged between one and two inches and included 1.90 inches in Lewes, 1.60 inches in Newark, 1.54 inches in Dover, 1.50 inches in Odessa, 1.47 inches in Wilmington and 1.31 inches in Georgetown.

### **DEZ003>004**

#### **Inland Sussex - Delaware Beaches**

<b>09</b>	<b>0200EST 1000EST</b>	<b>0</b>	<b>0</b>	<b>0 Wind</b>
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Strong southeast winds preceding and accompanying a low pressure system's warm front brought wind gusts as strong as 40 to 50 mph across Sussex County during the first half of the 9th. Some widely scattered power outages occurred.

### **New Castle County Coochs Bridge**

<b>19</b>	<b>0610EST 1045EST</b>	<b>0</b>	<b>0</b>	<b>Flood</b>
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# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## DELAWARE

The unseasonably wet year and month of March set the stage for further flooding along the Christina River the morning of the 19th. Rain began again across northern Delaware during the evening of the 18th and fell at a moderate clip (around two tenths of an inch per hour) between 2 a.m. and 6 a.m. EST on the 19th. This was too much for the saturated ground and the Christina River. At Coochs Bridge, the river was above its 9 foot flood stage from 610 a.m. until 1045 a.m. EST the morning of the 19th. It crested at 9.4 feet at 730 a.m. EST. The low pressure system responsible for the rain was in the Ohio Valley the morning of the 19th and pumped in moisture from the Gulf of Mexico and the Atlantic Ocean into the Middle Atlantic States. Storm rainfall totals included 1.30 inches in Newark, 1.18 inches at the New Castle County Airport and 1.09 inches in Christina.

### **New Castle County Coochs Bridge**

<b>21</b>	<b>0425EST 1200EST</b>	<b>0</b>	<b>0</b>	<b>Flood</b>
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A couple of hours of heavy rain was all it took for the Christina River to flood in northern New Castle County Delaware for the third time this month. Heavy rain fell between 2 a.m. and 5 a.m. EST and at 420 a.m. EST the Christina River at Coochs Bridge reached its flood stage of 9 feet. It crested at 10.55 feet at 7 a.m. EST and the river was back within flood stage at 905 a.m. EST. Saturated grounds from previous heavy rains this month made the Christina River respond rapidly. Some low lying roadways near the river had to be closed. While the heavy rain was over by daybreak, some lingering light rain persisted into the early afternoon on the 21st. Storm totals included 1.20 inches at Newark and 1.18 inches at the New Castle County Airport. A low pressure system centered over North Carolina early in the morning on the 21st pumped moisture and heavy rain through the region.

### **DEZ003>004**

#### **Inland Sussex - Delaware Beaches**

<b>21</b>	<b>1130EST</b>	<b>0</b>	<b>0</b>	<b>Coastal Flooding</b>
<b>22</b>	<b>0330EST</b>			

A coastal low pressure system helped produce some minor tidal flooding around the time of high tide during the early afternoon on the 21st and the very early morning on the 22nd. Tides averaged between 2.5 and 3.0 feet above normal and reached near 5.2 feet at Indian River Inlet and 6.8 feet at Breakwater Harbor during the high tide. The highest tides in most areas occurred with the early morning high tide on the 22nd. Since the low moved quickly, winds shifted to the northwest around sunrise on the 22nd and tidal flooding was limited to only a two tide cycle event. Winds gusted to around 45 mph along the immediate shore, but these conditions paled in comparison to the northeasters that battered the region during late January and early February. The low pressure system that caused the minor tidal flooding moved northeast from North Carolina early in the morning on the 21st, to just east of Delaware the evening of the 21st to Cape Cod the morning of the 22nd.

### **DEZ001>004**

#### **New Castle - Kent - Inland Sussex - Delaware Beaches**

<b>27</b>	<b>1000EST</b>	<b>0</b>	<b>0</b>	<b>Unseasonably Warm</b>
<b>31</b>	<b>1800EST</b>			

An unseasonably warm air mass for late March brought record breaking high temperatures across the Delmarva Peninsula from March 27th through March 31st. The warmest day was the 29th for coastal areas and the 30th for inland locations. Several locations across the Middle Atlantic States established new March monthly high temperature records. Across the state, the highest temperatures included 88 degrees in Georgetown and 86 degrees at the New Castle County Airport. The 86 degree mark on the 30th at the New Castle County Airport not only established a new record high for the day, but also tied the all-time monthly high temperature record originally set on March 21, 1948. New record high temperatures were set at the airport on the 27th, 30th and 31st. Cloudiness and a cold frontal passage on April 1st slowly brought temperatures back to seasonal levels in early April.

### **DEZ001>004**

#### **New Castle - Kent - Inland Sussex - Delaware Beaches**

<b>31</b>	<b>2359EST</b>	<b>0</b>	<b>0</b>	<b>Unseasonably Wet</b>
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Continuing a trend that has persisted throughout 1998 so far, March 1998 was an unseasonably wet month across the Delmarva Peninsula. This led to the Christina River in New Castle County reaching flood stage three times during the month. On a county weighted average, monthly precipitation totals were between 5.1 and 5.8 inches and averaged between 1.1 and 2.4 inches above normal. Precipitation was greater than 150 percent of normal in Kent and New Castle Counties and slightly less, but still above normal in Sussex County.

## DISTRICT OF COLUMBIA

### **District Of Columbia East Portion**

<b>09</b>	<b>0500EST 1000EST</b>	<b>0</b>	<b>0</b>	<b>Flash Flood</b>
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A thunderstorm, dumping rainfall of 3/4 to 1 inch in the city shortly before dawn, exacerbated saturated soil conditions from the previous week's rains, causing spotty flash flooding and creating one of the slowest morning commutes in some time across the eastern half of the metropolitan area. Automobile and rail traffic slowed to a near standstill through mid to late morning. Flooding closed a stretch of Rock Creek Parkway between Virginia Avenue and P Street NW. High standing water also closed the intersection of Helen Boroughs and Kenilworth Avenue NE. Poor drainage induced other flooding in Anacostia. Minor flooding near Union Station (NE) caused lengthy delays, especially for the commuter rail system.

### **DCZ001**

#### **District Of Columbia**

<b>11</b>	<b>0700EST</b>	<b>0</b>	<b>0</b>	<b>Unseasonably Cold</b>
<b>13</b>	<b>0700EST</b>			

A series of cold fronts ushered in only the second arctic air mass of the winter of 1997/98. The unseasonably cold air, arriving on

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## DISTRICT OF COLUMBIA

the heels of a mild and wet February, brought temperatures to their lowest values since the 1st of the year. Luckily, the legendary Japanese cherry trees, which had budded prematurely due to the wet mild conditions in February, closed up enough such that damage was virtually unnoticed when the final blooms appeared during the last weekend of the month. Other minor damage was noted to early blooming magnolia trees.

Though no individual temperature records were set, the average daytime highs in the upper 30s to around 40 and nighttime lows in the lower 20s were some 10 to 15 degrees below normal.

### DCZ001

#### **District Of Columbia**

27	1500EST			0	0			<b>Unseasonably Warm</b>
31	1800EST							

After a winter of cloudy, wet conditions, spring struck back with a vengeance in the form of strong atmospheric high pressure. Underneath the high, very warm and dry weather developed - more like early June than late March. Daytime high temperatures averaged in the mid 80s and nighttime lows were equally balmy - in the upper 50s to lower 60s. A new record high was achieved on the 30th, when Reagan National Airport (DCA) had a maximum temperature of 87. This broke the 1963 record by 1 degree.

The early heat wave, which began on a weekend, brought the famed Japanese cherry trees into full blossom, causing a tourist traffic jam. However, the warm weather took away what it quickly gave - the blossoms turned to leaves within 5 days, rather than the normal 1 to 2 weeks.

## FLORIDA, East Central

### **Martin County**

Hobe Sound	01	0010EST		0	0			<b>Hail (1.00)</b>
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### **Osceola County**

Kissimmee	09	0150EST	0.2	50	0	0	70K	<b>Tornado (F0)</b>
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A category F2 tornado touched down briefly in the western part of Kissimmee producing minor damage to about 40 mobile homes. Most of the damage was to carports and awnings.

### **Brevard County**

Cocoa Beach	09	0220EST		0	0	50K		<b>Thunderstorm Wind (G60)</b>
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Thunderstorm winds blew down trees and damaged the roof of a high school building in Cocoa Beach.

### **Brevard County**

Patrick Afb	09	0229EST		0	0	5K		<b>Thunderstorm Wind (G64)</b>
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Thunderstorm winds blew down traffic signals and produced a gust to 74 mph at Patrick AFB.

### **Okeechobee County**

2 SW Okeechobee to 2 E Okeechobee	09	0320EST	4	100	0	10	5.4M	<b>Tornado (F1)</b>
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An F1 tornado touched down along the north shore of Lake Okeechobee near Highway 441. The tornado moved northeast through Okeechobee damaging six businesses and nine homes. Thirteen mobile homes and recreational vehicles were destroyed. About 100 others were damaged. Ten people were injured. Two required hospitalization.

### **St. Lucie County**

1 N Ft Pierce	09	0348EST	0.5	50	0	0	3.2M	<b>Tornado (F1)</b>
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An F1 tornado touched down at the St. Lucie County Fair grounds destroying 20 amusement park rides, bleachers, and out buildings. The tornado then moved northeast toward the St. Lucie County Airport where it overturned 8 planes and destroyed a hangar. No one was injured.

### **Volusia County**

De Land	20	1456EST		0	0			<b>Hail (1.25)</b>
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### **Volusia County**

New Smyrna Beach	20	1510EST		0	0			<b>Hail (1.00)</b>
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### **St. Lucie County**

12 W Ft Pierce	20	1605EST		0	0			<b>Hail (1.00)</b>
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# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## FLORIDA, Northeastern

**FLZ020>025-030>033-035>038-040**    **Hamilton - Suwannee - Columbia - Baker - Nassau - Duval - Union - Bradford - Clay - St. Johns - Gilchrist - Alachua - Putnam - Flagler - Marion**

	01	0001EST			0	0	25.5M	Flood
	31	2359EST						

Total flooding related to El Nino, More than 2800 homes and more than 175 businesses destroyed.

### **Putnam County**

<b>2 N Interlachen</b>	08	1030EST			0	0	3K	Thunderstorm Wind
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Large trees were blown down.

### **Hamilton County**

<b>Jasper</b>	08	2005EST			0	0	2K	Thunderstorm Wind
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Large trees and power lines were blown down.

### **Gilchrist County**

<b>Bell</b>	08	2115EST			0	0	5K	Thunderstorm Wind
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Roof Damage

### **Bradford County**

<b>Starke</b>	08	2140EST			0	0	1.5K	Thunderstorm Wind
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Large trees and power lines were blown down.

### **Union County**

<b>Raiford</b>	08	2140EST			0	0	1.5K	Thunderstorm Wind
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Large trees and power lines were blown down.

### **Alachua County**

<b>Gainesville</b>	08	2145EST			0	0	3K	Thunderstorm Wind
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Large trees and power lines were blown down.

### **Baker County**

<b>Macclenny</b>	08	2145EST			0	0	2.5K	Thunderstorm Wind
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Large trees and power lines were blown down.

### **Clay County**

<b>Orange Park</b>	08	2245EST			0	0	5K	Thunderstorm Wind (G60)
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Damaged signs.

### **St. Johns County**

<b>St Augustine Arpt</b>	08	2250EST			0	0		Thunderstorm Wind (G60)
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### **Flagler County**

<b>6 W Bunnell</b>	08	2310EST			0	0		Hail (0.75)
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### **Marion County**

<b>Countywide</b>	18	1130EST			0	0	30K	Flood
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19 0200EST  
Numerous streets and roads were closed.

### **Marion County**

<b>Anthony</b>	19	0920EST			0	0		Hail (0.75)
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Hail was 6 inches deep inches deep North of Silver Springs.

### **Marion County**

<b>Ocala</b>	19	1600EST 2000EST			0	0	8K	Flood
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Heavy rain caused a retention pond to overflow and flood a mobile park.

## FLORIDA, Northwest

### **Gulf County**

<b>Port St Joe</b>	07	1402EST 1410EST	0.7	.3	0	0	35K	Tornado (F0)
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Waterspout came ashore two miles east of Port St. Joe Beach. Condo roof lifted off on beach side of Highway 98. Two neighboring houses and two vehicles sustained damage from flying debris. Numerous homes reported water damage in the Port St. Joe Beach, Port St. Joe, and Highland View areas.

### **Gulf County**

<b>Port St Joe</b>	07	1425EST 1431EST			0	0		Hail (1.75)
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Golfball sized hail observed at beach just west of Port St. Joe.



# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>FLORIDA, Southern</b>									
<b>Glades County</b> Moore Haven	09	0335EST 0350EST			0	0			<b>Waterspout</b>
									Waterspout moved ne across nw Lake Okeechobee before moving onshore Okeechobee county.
<b>Broward County</b> Hallandale	09	0545EST 0610EST	2.5	30	0	0			<b>Tornado (F1)</b>
									Tornado touched down near NW 8th Ave and I-95. The tornado moved east nearly along Hallandale Beach Blvd lifting near the Diplomat Golf Course. A railroad crossing signal, power poles and lines and several trees were downed.
<b>Broward County</b> Pembroke Pines	09	0600EST			0	0			<b>Thunderstorm Wind (G70)</b>
									Automobiles were tossed and large trees were downed.
<b>Dade County</b> Opa Locka to North Miami	09	0600EST 0623EST	4.5	30	0	0			<b>Tornado (F1)</b>
									Tornado touched down near the Palmetto Expressway and NW 17th Ave. This is known as the Terry Lakes area. The tornado moved northeast through the 17000 and 18000 blocks of north Dade County to near Honey Hill Dr(NW 199th St) and US-441. The tornado then took a path more toward the east as it moved to near Ives Dairy Rd(NE 203 St) and I-95. Numerous trees and power lines were downed. Windows were broken and signs were damaged or destroyed. A parked tractor trailer was overturned on the Florida turnpike near Ives Dairy Rd. Their was rof damage to homes and especially car ports due to large fallen trees.
<b>Dade County</b> Opa Locka	09	0613EST			0	0			<b>Thunderstorm Wind (G53)</b>
<b>Dade County</b> Miami Beach	16	0900EST 1700EST			0	0			<b>Rip Currents</b>
									25 swimmers were rescued.
<b>Palm Beach County</b> Delray Beach	17	0900EST 1700EST			0	0			<b>Rip Currents</b>
									3 swimmers were rescued. beach was closed.
<b>Broward County</b> Coral Spgs to Pompano Beach	20	0030EST 0055EST			0	0			<b>Thunderstorm Wind (G55)</b>
									Widespread tree damage and downed powerlines across northern Broward County. small planes flipped at Pompano Airport. 110 foot tall support poles for netting at golf facility bent in half.
<b>Palm Beach County</b> Lake Worth	23	1018EST 1030EST			0	0			<b>Waterspout</b>
									Three waterspouts were reported by a pilot 20 miles east of Lake Worth.
<b>Palm Beach County</b> Delray Beach	23	1330EST 1345EST			0	0			<b>Waterspout</b>
									Two waterspouts were reported by a pilot 15 miles east of Delray Beach.
<b>Broward County</b> Ft Lauderdale	30 31	0900EST 1700EST			0	0			<b>Rip Currents</b>
<b>Dade County</b> Miami Beach	30 31	0900EST 1700EST			0	0			<b>Rip Currents</b>
<b>Palm Beach County</b> Delray Beach	30 31	0900EST 1700EST			0	0			<b>Rip Currents</b>
									East winds near 20 knots resulted in rip currents and numerous rescues along southeast Florida beaches.
<b>FLORIDA, West Central</b>									
<b>Sarasota County</b> 25 SE Sarasota	01 03	0000EST 0800EST			0	0	0	0	<b>River Flood</b>
									The Myakka River at Myakka State Park crested at 7.4 feet on the 1st, nearly one half foot above the flood stage of seven feet.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>FLORIDA, West Central</b>									
<b>De Soto County</b>									
1 W Arcadia	01 03	0000EST 0800EST			0	0	25K	0	River Flood
									The Peace River along State Road 70 in Arcadia crested at 12.6 feet on the 1st, over one and a half feet above the flood stage of 11 feet.
<b>Polk County</b>									
1 E Bartow	01 16	0000EST 0000EST			0	0	0	0	River Flood
									The Peace River along State Road 60 in Bartow crested at 8.91 feet, nearly one foot above the flood stage of eight feet, on the 1st.
<b>Pasco County</b>									
18 W Zephyrhills	01 28	0000EST 2359EST			0	0	10K	0	River Flood
									The Cypress Creek at Worthington Gardens along State Road 54 crested at 10.59 feet, two and a half feet above the flood stage of eight feet, on the 24th. Minor flooding and water damage occurred at a fish and trailer camp along State Road 54.
<b>Hernando County</b>									
11 E Brooksville	01 29	0000EST 0800EST			0	0	0	100K	River Flood
									The Withlacoochee at Croom crested at 9.76 feet, less than a foot above the flood stage of 9 feet, on the 3rd. Crops were also damaged by the floodwaters along the banks of the Withlacoochee.
<b>Citrus County</b>									
1 N Citrus Spgs	01 31	0000EST 2359EST			0	0	250K	0	River Flood
									The Withlacoochee River at Dunnellon crested at 29.7 feet, more than a half foot above the flood stage of 29 feet, on the 20th. Three streets and several homes were flooded in the River Lakes subdivision.
<b>Citrus County</b>									
Holder	01 31	0000EST 2359EST			0	0	500K	0	River Flood
									The Withlacoochee River at Holder crested at 10.58 feet, two and a half feet above the flood stage of eight feet, on the 21st. Several homes incurred water damage from the floodwaters, mainly in the Arrowhead subdivision along State Road 200.
<b>Pasco County</b>									
Tribby	01 31	0000EST 2359EST			0	0	750K	0	River Flood
									The Withlacoochee River rose to 14.06 feet on the 1st, over two feet above the flood stage of twelve feet, which caused water damage to properties along the river.
<b>Hillsborough County</b>									
Ruskin	01	0010EST			0	0	0	0	Hail (1.00)
									Quarter sized hail was reported by the public on the 1500 block of Gulf City Road.
<b>Polk County</b>									
18 S Mulberry	01	0100EST	0.1	5	0	0	0	0	Tornado (F0)
									A short-lived and weak tornado was reported on State Road 37 along the Polk-Hardee county line by a Skywarn Spotter.
<b>Polk County</b>									
Ft Meade	01	0115EST			0	0	0	0	Hail (0.75)
									Dime sized hail was reported on Laurel Road by the Ft Meade Police Department.
<b>Sarasota County</b>									
Sarasota	01	0520EST			0	0	0	0	Hail (0.75)
									Dime sized hail was reported by the Sarasota County Emergency Management.
<b>Manatee County</b>									
Bradenton	01	0545EST			0	0	5K	0	Thunderstorm Wind
									Thunderstorm winds downed several large trees in the city of Bradenton.
<b>Sarasota County</b>									
Sarasota	01	0545EST			0	0	5K	0	Thunderstorm Wind
									Thunderstorm winds downed several large trees in the city of Sarasota.
<b>Sarasota County</b>									
2.3 ENE Sarasota	01	0600EST	0.4	20	0	0	500K	0	Tornado (F1)
									A tornado touched down at the Tuttle Elementary School at Brink Avenue north of County Road 780 (Fruitville Road) in Sarasota and severely damaged six classrooms, a portion of a portable dining room, downed a concrete wall and reduced a pavilion to a pile of rubble. Six additional classrooms incurred minor damage from the tornado before it lifted and dissipated. A few trees and large tree limbs were downed by the tornado before it lifted and dissipated.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>FLORIDA, West Central</b>									
<b>Charlotte County</b> 2 S Grove City	01	0715EST			0	0	10K	0	<b>Lightning</b>
									Lightning ignited a brush fire which burned five acres at Lemon Bay Park.
<b>Hillsborough County</b> 21 NE Tampa	01 02	0800EST 0800EST			0	0	20K	0	<b>River Flood</b>
									The Hillsborough River at Hillsborough State Park crested at 10.85 feet, nearly one foot above the flood stage of ten feet, on the 2nd, before the river receded.
<b>Hillsborough County</b> 21 SSE Tampa	01 03	0800EST 0800EST			0	0	0	0	<b>River Flood</b>
									In Hillsborough county, heavy rains caused the Little Manatee River to crest at 11.87 feet, nearly four feet above the seven foot flood stage, at U.S. Highway 301.
<b>Lee County</b> Ft Myers	01	0850EST			0	0	10K	0	<b>Thunderstorm Wind</b>
									Thunderstorm winds downed several power lines in the city of Ft Myers.
<b>Citrus County</b> 1 S Citrus Spgs	08	2210EST			0	0	15K	0	<b>Tstm Wind (G45)</b>
									Thunderstorm winds of up to 50 mph downed a large tree which fell atop and damaged a house in Citrus Springs.
<b>Pasco County</b> New Port Richey	08 09	2230EST 0300EST			0	0	175K	0	<b>Coastal Flood</b>
									Winds in excess of 50 mph caused coastal flooding and beach erosion to several locations west of U.S. Highway 19 in New Port Richey. Several roads had water that covered roadways two to three feet deep and were impassable for several hours.
<b>Pasco County</b> 7 SW New Port Richey	08	2310EST			0	0	0	0	<b>Thunderstorm Wind (G50)</b>
									Thunderstorm winds of 58 mph were measured from a boat anchored at Anclote Key by a Skywarn Spotter.
<b>Pasco County</b> New Port Richey	08	2315EST			0	0	20K	0	<b>Thunderstorm Wind</b>
									Thunderstorm winds downed a 50 foot radio antenna near the intersection of U.S. Highway 19 and Ridge Road in New Port Richey.
<b>Pinellas County</b> Palm Harbor	09	0000EST			0	0	15K	0	<b>Tstm Wind (G45)</b>
									Thunderstorm winds of up to 50 mph downed a large tree which crushed a parked vehicle in Palm Harbor.
<b>Sarasota County</b> Sarasota Arpt	09	0020EST			0	0	60K	0	<b>Thunderstorm Wind</b>
									Thunderstorm winds overturned and destroyed two Cessna single engine aircraft at Jones Aviation on the 1200 block of Clyde Jones Road at the northeast corner of the Sarasota-Bradenton International Airport. Several large trees and power lines were also downed by the thunderstorm winds in the vicinity of the airport.
<b>Manatee County</b> Anna Maria	09	0020EST			0	0	0	0	<b>Thunderstorm Wind (G53)</b>
									Thunderstorm winds gusts of 61 mph were observed by a Skywarn Spotter. Several trees and power lines were downed on Anna Maria Island by the thunderstorm winds.
<b>Hillsborough County</b> 2 SW Tampa	09	0023EST 0035EST			0	0	50K	0	<b>Thunderstorm Wind</b>
									Thunderstorm winds of up to 60 mph damaged carports and lanais at Macdill Air Force Base and along Bayshore Boulevard in Tampa.
<b>Manatee County</b> 8 SE Bradenton	09	0025EST			0	0	0	0	<b>Thunderstorm Wind (G58)</b>
									Thunderstorm wind gusts of 67 mph were measured by a Skywarn Spotter four miles east of the Sarasota-Bradenton International Airport in Manatee county.
<b>Sarasota County</b> North Port	09	0035EST			0	0	42K	0	<b>Thunderstorm Wind</b>
									Thunderstorm winds damaged the roofs of three mobile homes at the Holiday Mobile Home Park. Thirty large trees were also downed by the thunderstorm winds along Cheryl Lane and Euclid Avenues in North Port.
<b>Sarasota County</b> Sarasota	09	0040EST			0	0	5K	0	<b>Thunderstorm Wind</b>
									Thunderstorm winds downed several signs and numerous large tree limbs near 17th Street and Hammock Place in Sarasota.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>FLORIDA, West Central</b>									
<b>Manatee County</b> 4 NW Bradenton to 3 NE Bradenton	09	0046EST 0052EST			0	0	30K	0	Thunderstorm Wind
									Thunderstorm winds damaged the roof of a mobile home in the Colonial Mobile Home Park and downed several trees and power lines in Palmetto. Thunderstorm winds also damaged the roof of a home on 50th Avenue West along the Manatee River and damaged a few carports at the Shadow Brook Mobile Home Park in Ellenton.
<b>Pinellas County</b> St Petersburg	09	0100EST 0110EST			0	0	2K	0	Tstm Wind (G45)
									Thunderstorm winds uprooted a few large trees between 14th and 19th Streets North in St. Petersburg. One vehicle received glass damage from a large fallen branch.
<b>Hillsborough County</b> 2 NE Tampa to 1 S Tampa	09	0100EST			0	0	1M	0	Thunderstorm Wind
									Thunderstorm winds blew out five windows on the upper floors of Tampa's Municipal building in downtown Tampa. Thunderstorm winds also severely damaged five large stainless steel juice tanks and caused minor damage to another two at Hookers Point. Several businesses in the Ybor City district of Tampa incurred awning and vehicle glass damage from the thunderstorm winds.
<b>Hillsborough County</b> Tampa	09	0100EST			0	0	50K	0	Hail (0.75)
									Wind driven dime sized hail punctured several windows on the 7th and 8th floors of the "Old" City Hall building in Downtown Tampa.
<b>Manatee County</b> 7 E Bradenton	09	0102EST			0	0	2K	0	Thunderstorm Wind
									Thunderstorm winds removed several shingles from the roof of a structure on 10th Avenue East near Interstate 75 in Bradenton.
<b>Polk County</b> Winter Haven	09	0112EST			0	0	0	0	Hail (1.25)
									Half dollar sized hail was reported near Cypress Gardens.
<b>Sarasota County</b> Osprey	09	0115EST			0	0	25K	0	Thunderstorm Wind
									Thunderstorm winds downed a large tree, power lines and several large tree limbs along South Creek Drive in Osprey. A few pool cages, metal fascia and roof shingles were also damaged by the thunderstorm winds in Osprey.
<b>Hardee County</b> 11 ESE Wauchula to 14.5 E Wauchula	09	0119EST 0124EST	5	75	0	0	75K	0	Tornado (F0)
<b>Highlands County</b> 5 SW Avon Park to 5 E Avon Park	09	0124EST 0135EST	10.5	250	0	0	437K	0	Tornado (F1)
									Ground survey indicated that a tornado initially touched down eleven miles east southeast of Wauchula along Steve Roberts Road, two miles west of County Road 671, in rural, semi-wooded swamp and grassland of eastern Hardee county. The tornado produced "F0" damage in the form of downed trees, power poles and mobile home roof damage.
									The tornado continued to move northeast across rural, semi-wooded swamp and grassland of eastern Hardee county and crossed the county line into extreme northwest Highlands county at 124 AM EST.
									The tornado reached its maximum F1 strength and width when it touched down in the uncompleted "Sun 'n Lakes" home development on the southwest side of Avon Park. Hundreds of large trees were uprooted or snapped half-way up from the base in the development around 127 AM EST. A few homes received minor roof and structural damage along Columbus Boulevard west of U.S. Highway 27 in the uncompleted "Sun 'n Lakes" subdivision.
									The tornado crossed U.S. Highway 27 near Lake Glenada and caused minor roof and structural damage to a few homes, commercial buildings and signs.
									The tornado continued to skip northeast across Lake Lotela and briefly touched down and caused minor roof and structural damage to a few homes and sheds along E. Roberts Road, approximately five miles east of Avon Park. The tornado lifted and dissipated at approximately 135 AM EST.
<b>Polk County</b> Babson Park	09	0121EST			0	0	0	0	Thunderstorm Wind (G52)
									Thunderstorm wind gusts in excess of 60 mph were measured by a Skywarn Spotter.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## FLORIDA, West Central

### Highlands County 1 W Avon Park

<b>09</b>	<b>0127EST</b>								
		<b>0</b>	<b>0</b>	<b>150K</b>	<b>0</b>	<b>Thunderstorm Wind</b>			

Downburst winds from a thunderstorm caused structural damage to several metal buildings and sheds along State Road 64 near the intersection of U.S. Highway 27 in Avon Park. The downburst winds blew from north northwest to south southeast which damaged several north facing roof overhangs and facades of commercial buildings along State Road 64.

### Polk County 7 SE Lake Wales to 16 E Lake Wales

<b>09</b>	<b>0128EST</b>	<b>10.4</b>	<b>250</b>						
	<b>0137EST</b>			<b>0</b>	<b>4</b>	<b>2M</b>	<b>0</b>	<b>Tornado (F2)</b>	

A tornado (F0) touched down in rural semi-wooded swampland, seven miles southeast of Lake Wales in Southwest Polk County. Ground survey indicated that the tornado moved northeast across Lake-In-The-Water Road and caused sporadic minor damage to the roofs of a few homes and downed trees and branches in the Oakwood Drive subdivision. The tornado continued northeast, widened to 250 yards and intensified to F2 strength where it destroyed or severely damaged several structures along Doherty Drive.

Two mobile homes that took a direct hit from the F2 tornado along Doherty Drive were completely disintegrated with only frame rails and tie downs intact. Meanwhile, in close proximity to the crushed mobile homes, a well-built home, with rebar-poured concrete, reinforced cinder block walls and a hip roof, suffered minor structural and roofing tile damage after taking a direct hit by the F2 tornado on Doherty Drive. A pick-up truck parked adjacent to the well-built home was pushed 30 feet from its original resting place by the tornadic wind.

Residents along Doherty Drive reported the sound of the tornado resembled that of a large freight train. One severely injured resident on Doherty Drive was tossed over 50 feet into the street from his mobile home that was destroyed by the tornado.

A storage facility with unsupported cinder block walls and a high unsupported roof span was demolished by the tornadic wind. Tornado ground survey indicated that a large ten foot plus wide wood door entrance failed and allowed the tornadic wind to enter the commercial structure and exert extreme pressure on the outer load bearing walls which collapsed outward.

Aerial survey indicated that the tornado weakened to F1 strength and continued northeast across rural pasture and semi-wooded swampland where it caused severe damage to a few mobile homes, barns, fences and sheds before it crossed State Road 60, one quarter mile west of Tiger Lake Road, or 11.5 miles east of Lake Wales.

The tornado downed large power lines along State Road 60 and continued northeast where it snapped tree tops and branches before it lifted and dissipated along the southwest shore of Lake Kissimmee.

The tornado in all destroyed or severely damaged twelve homes, caused moderate to slight damage to an additional fourteen homes, severely damaged four commercial buildings and damaged two recreational vehicles. The tornado also snapped several large power poles, downed numerous power lines and uprooted or snapped several large trees. Tornado damage to structures was estimated at one million dollars while damage to the electrical infrastructure was estimated at one million dollars.

### Sarasota County Manasota

<b>09</b>	<b>0130EST</b>								
	<b>0140EST</b>			<b>0</b>	<b>0</b>	<b>75K</b>	<b>0</b>	<b>Thunderstorm Wind</b>	

Thunderstorm winds damaged porch enclosures of ten to fifteen mobile homes on the 6100 block of Manasota Key Road.

### Charlotte County Englewood to Port Charlotte

<b>09</b>	<b>0130EST</b>								
	<b>0145EST</b>			<b>0</b>	<b>0</b>	<b>80K</b>	<b>0</b>	<b>Thunderstorm Wind</b>	

Thunderstorm winds downed several large trees, power lines and damaged the roofs of nine mobile homes from Englewood to Port Charlotte. Most of the wind damage occurred from Dearborn to Beach Street in Englewood where roof, soffit and aluminum trim materials were ripped from mobile homes.

### Manatee County 27 E Bradenton

<b>09</b>	<b>0800EST</b>								
<b>10</b>	<b>0800EST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>River Flood</b>	

The Manatee River at Myakka Head along State Road 64 crested at 7.98 feet on the 10th, nearly a foot above the flood stage of seven feet.

### De Soto County 1 W Arcadia

<b>10</b>	<b>0800EST</b>								
<b>14</b>	<b>0800EST</b>			<b>0</b>	<b>0</b>	<b>20K</b>	<b>0</b>	<b>River Flood</b>	

The Peace River along State Road 70 in Arcadia crested at 11.62 feet on the 11th, over a half foot above the flood stage of eleven feet.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>FLORIDA, West Central</b>									
<b>Pasco County</b>									
Countywide	19	0300EST			0	0	1.5M	0	Flood
	20	2000EST							
Heavy rains caused widespread flooding to homes, roadways and low-lying areas from New Port Richey to Zephyrhills and Dade City in Pasco county. More than 100 homes were damaged from floodwaters, primarily in the Timber Lake Estates along Morri s Bridge Road of Zephyrhills.									
<b>Polk County</b>									
1 E Bartow	19	0800EST			0	0	0	0	River Flood
	31	2359EST							
The Peace River along State Road 60 in Bartow crested at 8.85 feet, nearly one foot above the flood stage of eight feet, on the 24th.									
<b>Hillsborough County</b>									
21 SSE Tampa	19	0800EST			0	0	750K	0	River Flood
	24	0800EST							
In Hillsborough county, heavy rains caused the Little Manatee River to crest at 18.7 feet, nearly eight feet above the flood stage of eleven feet at U.S. Highway 301. Several homes along the rivers banks incurred water damage from the floodwaters.									
<b>Manatee County</b>									
27 E Bradenton	19	0800EST			0	0	100K	0	River Flood
	24	0800EST							
The Manatee River at Myakka Head along State Road 64 crested at 18.08 feet on the 20th which tied its record crest. The 18.08 foot crest was over eleven feet above the flood stage of seven. Significant road and bed damage occurred to State Road 64 from th e floodwaters.									
<b>Hillsborough County</b>									
13 SE Tampa	19	0800EST			0	0	375K	0	River Flood
	25	0800EST							
The Alafia River at Riverview crested at 17.72 feet, nearly five feet above the flood stage of 13 feet, on the 21st. Several rental homes along and near the Alafia River were damaged by floodwaters.									
<b>Hardee County</b>									
1 N Zolfo Spgs	19	0800EST			0	0	0	0	River Flood
	27	0800EST							
The Peace River at Zolfo Springs crested its banks. The height of the crest was not measured due to gage equipment failure.									
<b>De Soto County</b>									
8 WSW Arcadia	19	0800EST			0	0	1M	0	River Flood
	27	0800EST							
The Horse Creek at Arcadia crested at 16.22 feet, over four feet above its flood stage of twelve feet, on the 22nd. The floodwaters damaged several homes in the Hidden Acres subdivision and a portion of State Road 72 was underwater at Horse Creek.									
<b>Sarasota County</b>									
25 SE Sarasota	19	0800EST			0	0	200K	0	River Flood
	31	2359EST							
The Myakka River at Myakka State Park crested at 10.57 feet on the 22nd, over three and a half feet above the flood stage of seven feet. Over 20 homes downstream were damaged from the floodwaters of the Myakka River.									
<b>Manatee County</b>									
Myakka City	19	1355EST	0.3	15	0	1	350K	0	Tornado (F1)
A short lived tornado destroyed a mobile home and six to seven barns at the Charlotte Horse Ranch on State Road 70 near Myakka City. A 23 year-old man was injured and his cat killed when the tornado destroyed there mobile home and pickup truck.									
<b>Manatee County</b>									
Myakka City	19	1400EST			0	0	25K	0	Thunderstorm Wind
Thunderstorm winds estimated at 60 to 70 mph by the public caused minor roof and shingle damage to a few homes and downed a few large trees and several large branches in Myakka City.									
<b>Hardee County</b>									
Zolfo Spgs	19	1440EST	0.1	5	0	0	0	0	Tornado (F0)
A short-lived tornado was reported by the public in Zolfo Springs. The tornado lifted and dissipated without damage.									
<b>Sarasota County</b>									
2.5 ESE Sarasota	19	2330EST			0	0	500K	0	Flood
	20	0400EST							
Three to six inches of rain with isolated amounts up to ten inches fell over a large part of Sarasota county which caused the water s of the Philipi Creek along Greer and Gehardt Streets near County Road 773 to overflow its banks. Up to 45 homes were damage d by floodwaters of the Philipi Creek with damage estimated at one half million dollars.									
<b>Polk County</b>									
Countywide	20	0100EST			0	0	250K	0	Urban/Sml Stream Fld
		1800EST							

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>FLORIDA, West Central</b>									
Heavy rainfall caused localized flooding of small lakes in the Hidden Lakes subdivision, two miles north northeast of Lakeland. Several homes in the subdivision incurred water damage. Localized flooding of homes occurred on Lake Bonny, Lake Lowery, Spirit Lake, Lake Deer and Lake Seward of Polk county.									
<b>Hillsborough County</b>									
21 NE Tampa	20	0800EST			0	0	50K	0	River Flood
	23	0800EST							
The Hillsborough River at Hillsborough State Park crested at 12.17 feet, over two feet above the flood stage of ten feet, on the 20th, before the river receded. A few mobile homes incurred water damage during the crest of the Hillsborough River.									
<b>De Soto County</b>									
1 W Arcadia	20	0800EST			0	0	3.8M	0	River Flood
	31	2359EST							
The Peace River along State Road 70 in Arcadia crested at 18.14 feet on the 23rd, over seven feet above the flood stage of eleven feet. Nearly 150 homes and recreational vehicles incurred water damage from the floodwaters, primarily in the Arcadia Peace River Campground. Water from the Peace River covered and closed State Road 64 while 35 additional secondary roads were closed in the vicinity of the river. Several roads and bridges along the Peace River and its tributaries were washed out or heavily damaged.									
<b>Manatee County</b>									
Anna Maria to Bradenton	20	1120EST 1135EST			0	0	100K	0	Thunderstorm Wind
Thunderstorm winds caused minor roof damage to several homes and downed trees and power lines from Anna Maria Island to Bradenton.									
<b>Sarasota County</b>									
6 N Osprey	20	1235EST			0	0	0	0	Hail (0.88)
Nickel sized hail was reported on U.S. Highway 41 six miles north of Osprey.									
<b>Sarasota County</b>									
7 SSE Sarasota	20	1303EST			0	0	60K	0	Thunderstorm Wind
Thunderstorm winds damaged pool cages of six homes near the intersection of State Road 72 and County Road 773 (Beneva Road).									
<b>Manatee County</b>									
Myakka City to 7 NW Myakka City	20	1312EST			0	0	15K	0	Thunderstorm Wind
Thunderstorm winds downed several power lines two miles east of the intersection of State Road 70 and County Road 675.									
<b>Hardee County</b>									
8 NE Wauchula	20	1415EST			0	0	0	0	Hail (0.75)
Dime sized hail was reported by the Hardee County Public Works Division along State Road 64 in northeast Hardee county.									
<b>Highlands County</b>									
2 S Sebring	20	1449EST			0	0	0	0	Hail (1.75)
Golfball sized hail was reported by the Highlands County Emergency Management.									
<b>Highlands County</b>									
5.5 E Sebring to Avon Park	21 22	0900EST 1800EST			0	0	850K	0	Urban/Sml Stream Fld
Heavy rain caused the Arbuckle Creek to rise and wash out a two-lane bridge culvert on Arbuckle Creek Road. Two vehicles that drove over the damaged bridge were washed out into the culvert and destroyed.									
In Avon Park, nearly two feet of water damaged 30 homes in the Bonnie Brae Mobile Home Park. Water damage also occurred at Aero Interiors and Highlands Aviation at the Avon Park Airport.									
<b>Pasco County</b>									
2 N Zephyrhills	21 22	2000EST 1800EST			0	0	300K	0	Urban/Sml Stream Fld
Six to eight inches of heavy rainfall caused localized flooding of more than 20 homes along Wire Road of Zephyrhills. Water levels on a few local roads near Zephyrhills rose three to four feet deep before receding.									
<b>Pasco County</b>									
Hudson	21 22	2000EST 1800EST			0	0	450K	0	Urban/Sml Stream Fld
Four to six inches of heavy rainfall caused localized flooding to dozens of homes and several streets near Frierson Lake. Most of the flood damage to homes occurred along West Road in Hudson.									

## FLORIDA, West Panhandle

<b>FLZ002-004-006</b>	<b>Coastal Escambia - Coastal Santa Rosa - Coastal Okaloosa</b>								
	08	0200CST 0600CST			0	0	80K		Flood
Coastal Flooding...A strong persistent southerly windflow caused water to pile up between Destin and Perdido Bay. High waves									

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## FLORIDA, West Panhandle

caused sand to wash out near Norriego Point which allowed a stream of water to crash over into normally tranquil Destin Harbor. Some beach erosion occurred from Navarre Beach to Fort Pickens. Sand was blown across County Road 399 between Navarre Beach and Fort Pickens and had to be cleared several times to allow vehicles to travel over it.

### Escambia County Countywide

08	0415CST 2000CST	0	0	1.5M	Flood
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### Okaloosa County Countywide

08	1030CST 2000CST	0	0	1M	Flood
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### Santa Rosa County Countywide

08	1030CST 2000CST	0	0	500K	Flood
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A slow moving complex weather system moved through southwest Alabama and northwest Florida on March 8, bringing with it copious amounts of rainfall. The Mobile WSR-88D estimated rainfall totals of six to ten inches across the area on March 8. Residents in north Santa Rosa and north Okaloosa counties estimated up to twelve inches of rain fell. The heavy rains began during the early morning hours in Escambia county and moved slowly east across Santa Rosa and Okaloosa counties during the mid morning hours. The heavy rainfall caused widespread flooding across the area. The flooding began in Escambia county and then spread east across Santa Rosa and Okaloosa counties. Most secondary roads were completely washed out in these counties. Following are highlights of some of the damages in the affected counties:

Escambia... Flooding was generally confined to the area along I-10 and north. Pensacola regional airport received about 6.5 inches of rainfall on March 7 and 8. Most of the dirt roads north of I-10 were completely washed out. Part of U S Highway 29 south of Century was closed for much of the day on Sunday because of high water. Most of the paved roads that had water on them had drained by Sunday evening. Residents say this was one of the worst floods they had seen. After the water drained, residents that lived along the Escambia River saw flooding for the next several days as the river rose to near its highest level ever, near Century. This forced people along the river to evacuate.

Okaloosa...Most of the flooding took place along and north of I-10. Most of the dirt roads in the central and north parts of the county were washed out by the heavy rain. Many of the paved roads in the north part of the county remained closed until the evening of March 8, when the water finally receded. As with Escambia county, river flooding continued for another week. The Yellow river at Milligan reached a reading of 20.32 feet on March 10 which is second to the reading of 26.2 feet in 1929. Many homes along the river had to be evacuated. Persons living along the Shoal river were also forced to evacuate.

Santa Rosa...Most of the dirt roads along and north of I-10 were washed out. Most were closed from Sunday morning until the evening of March 8. Many paved roads in the central and north part of the county were closed most of Sunday because of high water. River flooding began a few days later as residents who lived along the Yellow river were forced to evacuate. Persons along the Blackwater river in the Milton area were also forced to evacuate. Residents said this flood was comparable to the flood of 1990.

### Okaloosa County Blackman

08	0430CST 0431CST	0	0	25K	Thunderstorm Wind (G55)
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High winds damaged a home near Blackman. Siding and part of the roof was blown off. No one was injured.

### Escambia County West Pensacola

08	0440CST 0442CST	0	0		Hail (0.75)
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Dime size hail was reported along I-10 just west of Pensacola.

### Santa Rosa County Milton

08	0450CST 0452CST	0	0		Hail (0.75)
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Dime size hail was reported just northwest of Milton.

### FLZ002

#### Coastal Escambia

17	1000CST 1700CST	0	0	15K	Flood
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Coastal Flooding...Southeast winds increased behind an area of eastward moving thunderstorms to 20 to 30 knots, with gusts to near 45 knots, for several hours. The winds were likely the result of a Bubble High developing behind the eastward moving thunderstorms. Beach erosion occurred around Johnson Beach and along Pensacola Beach. Tides were three to five feet above normal along Pensacola Beach. The high winds extended inland for five to ten miles and lasted for three to four hours.

### Okaloosa County Crestview

19	1225CST 1227CST	0	0		Hail (0.75)
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Dime size hail was reported along I-10 just west of Crestview.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>GEORGIA, East Central</u></b>									
<b>Richmond County</b> Augusta	08	1235EST 1400EST			0	0	0		Flash Flood
Raes Creek flooded low lying areas and approached some homes but no flooding in homes was reported.									
<b>Columbia County</b> Evans	08	1450EST 1630EST			0	0	0		Flash Flood
Reed Creek spilled out of its banks and approached the foundation of some homes. EPD reported no water made it into any homes but it was close.									
<b><u>GEORGIA, Lower</u></b>									
<b>GAZ132&gt;136- 149&gt;153-162&gt;165</b>									
<b>Coffee - Jeff Davis - Bacon - Appling - Wayne - Atkinson - Ware - Pierce - Brantley - Inland Glynn - Echols - Clinch - Charlton - Inland Camden</b>									
	01	0001EST			0	0	3.5M		Flood
	31	2300EST							
Total flooding related to El Nino. More than 200 homes damaged. Flooding mainly along the St Mary's, Altamaha, and Satilla Rivers. Some areas also effect with Closed Basin flooding.									
<b>Coffee County</b> 2 S Ambrose to 2.1 S Ambrose	08	1019EST	0.1	20	0	0	30K		Tornado (F0)
Tornado snapped trees and power lines. Damaged a pickup truck.									
<b>Jeff Davis County</b> 2 N Hazelhurst to Hazelhurst	08	1045EST			0	0	2K		Thunderstorm Wind
Large trees and power lines were blown down.									
<b>Appling County</b> 1 N Baxley	08	1056EST			0	1	55K		Thunderstorm Wind
Three mobile homes destroyed.									
<b>Appling County</b> 1 S Surrency to 1.1 SE Surrency	08	1606EST 1610EST	0.1	20	0	0	2K		Tornado (F0)
Large trees and power lines were blown down.									
<b>Atkinson County</b> Pearson	08	1925EST			0	0	1.5K		Thunderstorm Wind
Large trees and power lines were blown down.									
<b>Clinch County</b> Homerville	08	1930EST			0	0	2.5K		Thunderstorm Wind
Large trees and power lines were blown down.									
<b>Echols County</b> Statenville	08	1930EST			0	0	1.5K		Thunderstorm Wind
Large trees and power lines were blown down.									
<b>Appling County</b> Countywide	08 09	2200EST 0100EST			0	0	10K		Flood
Numerous roads and streets were closed.									
<b>Atkinson County</b> Countywide	08 09	2200EST 0100EST			0	0	15K		Flood
Numerous roads and streets were closed.									
<b>Bacon County</b> Countywide	08 09	2200EST 0100EST			0	0	25K		Flood
Numerous roads and streets were closed.									
<b>Coffee County</b> Countywide	08 09	2200EST 0100EST			0	0	20K		Flood
Numerous roads and streets were closed.									
<b>Jeff Davis County</b> Countywide	08 09	2200EST 0100EST			0	0	15K		Flood

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>GEORGIA, Lower</b>									
Numerous roads and streets were closed.									
<b>GEORGIA, North and Central</b>									
<b>Sumter County</b>									
Americus	07	0100EST			0	0	100K		Lightning
A maintenance building at the Americus Country Club was destroyed when lightning ignited nearby trees and the fire spread to the building. The building, tools and equipment, and an automobile that were destroyed were easily valued at \$100,000.									
<b>De Kalb County</b>									
Countywide	08	0500EST 1030EST			0	0	10K		Flash Flood
<b>Fulton County</b>									
Countywide	08	0500EST 1030EST			0	0	10K		Flash Flood
After over an inch-and-a-half of rain the preceding two days, showers and thunderstorms dumped another 2 or more inches in a six hour period over the Atlanta metro area. Peachtree Creek as well as Nancy and Sope Creeks rose rapidly and came out of their banks. A foot of water was over some roads and basements of homes near the creeks were flooded.									
<b>GAZ032-042&gt;043-048-052&gt;053-056-058&gt;059-068&gt;073-078&gt;084-091&gt;098-103&gt;112</b>									
<b>Cobb - Carroll - Douglas - Newton - Heard - Coweta - Spalding - Butts - Jasper - Pike - Upson - Lamar - Monroe - Jones - Baldwin - Harris - Talbot - Taylor - Crawford - Bibb - Twiggs - Wilkinson - Marion - Schley - Macon - Peach - Houston - Bleckley - Laurens - Treutlen - Webster - Sumter - Dooly - Crisp - Pulaski - Wilcox - Dodge - Telfair - Wheeler - Montgomery</b>									
	08	0700EST			0	0	500K		Flood
	14	1800EST							
From 4 to 8 inches of rain fell over north and central Georgia from the 5th through the 8th. Flooding occurred mainly in low areas and near rivers and creeks from the the runoff as it moved downstream. Numerous roads were closed and some were damaged. An indirect death resulted in Carroll county when a the driver lost control of a vehicle and ran into a flooded creek. A baby was washed from the vehicle into the rushing waters. A dam in Lamar county broke. Homes and businesses sustained water damage in many counties. Families were evacuated in several counties. The governor of Georgia declared a state of emergency in a total of 72 counties in central and south parts of the state.									
<b>Coweta County</b>									
Senoia to Moreland	08	1325EST 1340EST			0	0			Hail (1.75)
Quarter size hail was reported in Senoia. Golfball size hail was reported in Moreland a few minutes later, apparently from a second storm. A funnel was also reported in the Moreland area.									
<b>Fayette County</b>									
2 S Peachtree City to Peachtree City	08	1326EST			0	0			Hail (0.75)
Dime size hail was reported between Senoia and Peachtree city.									
<b>Heard County</b>									
8 NE Franklin	08	1420EST 1425EST			0	0			Hail (0.75)
Fire station 5 reported dime size hail.									
<b>Walker County</b>									
Chickamauga	08	1715EST			0	0			Hail (0.75)
<b>Dodge County</b>									
Eastman	08	1400EST			0	0	5K		Lightning
A church was damaged when lightning struck a tree which fell onto it. The church was located on Rocky Spring Road in Dodge county. The time was estimated.									
<b>GAZ036-044</b>									
<b>Clarke - South Fulton</b>									
	12	0655EST			0	0			Cold
The coldest air of the 1997-1998 winter set new record low temperatures of 19 degrees at Hartsfield airport in Atlanta and 20 degrees at Ben-Epps airport in Athens.									
<b>Forsyth County</b>									
3 S Cumming	20	0545EST			0	0	50K		Thunderstorm Wind
Five homes in a subdivision off Kelly Mill Road received damage from thunderstorm winds. Numerous trees were downed in southern Forsyth county.									
<b>Hall County</b>									
2 S Murrayville to 2 N Clermont	20	0625EST 0635EST	9	100	10	96	15M		Tornado (F3)
M1MH, M6MH, F12MH, M30MH, F32MH, M35MH, M50VE, M51MH, M52MH, M74MH									



# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## GEORGIA, Southwest

roads were closed. In Calhoun and Clay counties, several schools were closed due to dangerous road conditions. In Colquitt County, 25 residents were evacuated. Hardest hit areas were along Indian Creek, Indian Lake, and Bear Creek. 75 county and secondary roads were closed. The Camilla Road bridge was closed to high water in Moultrie. Several Moultrie Housing Authority residents were displaced and a few streets in Norman Park were flooded. In Cook County, several county and secondary roads were washed out. In Decatur County, approximately 185 families evacuated their homes in the Flint River Heights and Riverdale subdivisions of Bainbridge. 20 county roads and 60 homes were damaged. Spring Creek overflowed its banks closing US Highway 84 at Brinson. The Elberta Crate Company lumber yard sustained flood damage. Floodwaters submerged much of West Bainbridge as well as several factories, businesses, and homes. The Flint River crested near 34.7 feet at Bainbridge on March 13. In Dougherty County, nearly 11,000 residents were evacuated in Albany. Several city and county roads were flooded. An estimated 500 homes were damaged. Many city schools were closed including Albany College. Waters overflowed the right bank levee into a downstream housing development. The Flint River crested at 36.9 feet (third highest) on March 11. In Early County, Long Branch Creek flooded 30 homes at Damascus. Several homes in Saffold and Jakin were flooded. One man was injured when he drove his vehicle through a barricade at Cedar Springs. Numerous county and secondary roads were closed. In Lee County, portions of US Highway 19 were closed to floodwaters. The Muckalee Creek crested near 17.1 feet at Leesburg on March 9. A few homes sustained minor flooding in the North Hampton subdivision (7 miles downstream from the river gage). In Lowndes County, Skipper Bridge, Little River, and Franklinville Roads flooded. Some houses along the Little River sustained minor flood damage. Portions of Valdosta flooded, especially along the right bank of the Withlacoochee River which crested at 22.5 feet on March 11. In Miller County, Spring Creek and some streams overflowed their banks. Numerous county and dirt roads were impassable. 10,000 gallons of raw sewage spilled into south Colquitt and some city streets were flooded. In Mitchell County, high waters closed numerous roads as county creeks and streams overflowed their banks. In Seminole County, several secondary and state roads were closed along Spring Creek and Fishpond Drain. In Terrell County, 19 county roads and State Highway 55 were impassable. Numerous creeks and tributaries overran their banks. Homes along the lower Kinchafoonee Road and creek were damaged as well as residences on Century Road in Dawson. The Kinchafoonee Creek at Dawson crested near 21.7 feet on March 10. In Thomas County, homes along the Ochlockonee River were evacuated as levels exceeded 18 feet and road access was impossible. Houses and trailers had water up to the doorsteps in the Lake Riverside and Stewart Avenue areas. The Ochlockonee River crested at Thomasville near 22 feet on March 10. In Worth County, 150 county and secondary roads were washed out. M32VE

### **GAZ142**

**Early**  
**08 1210EST** **0** **0** **1K** **High Wind**

Large pine trees down across railroad tracks at intersection of Rock Hill and Friendship Roads (approximately 2 miles east of Hilton).

### **Calhoun County**

#### **Leary**

**08 1230EST** **0** **0** **Hail (1.25)**  
**1300EST**

Golfball sized hail in Leary. Central Georgia Rail tracks washed out between Leary and Arlington. Flooding reported at the intersection of Highways 62 and 55.

### **Early County**

#### **Blakely**

**19 1900EST** **0** **0** **Hail (0.75)**  
**1910EST**

Dime sized hail observed in Blakely and 6 miles south of Blakely.

## GEORGIA, West Central

### **GAZ089**

**Muscogee**  
**08 0945CST** **0** **0** **30K** **0** **Flood**  
**1500CST**

Minor flooding occurred along the Chattahoochee River in Columbus, causing a park to get flooded.

## HAWAII

### **HIZ002>005**

**Oahu - Maui - Island Of Hawaii - Molokai**  
**01 0000HST** **0** **0** **Drought**  
**31 2359HST**

This was the third driest March on record in Honolulu since record keeping began in 1874. This was also the third driest January through March period for Honolulu since 1874.

Below average precipitation occurred statewide in March, with all first order and all automated rain gauges receiving less than average rainfall. Sixty-seven of the 73 rain gauges reported less than 50 percent of average for the month, while 35 received less than 25 percent of average. This continued the six month trend of drier than usual conditions for the entire state.

In the first half of March, weather patterns were dominated by a strong upper level jet stream across the Pacific Ocean north of the islands and multiple periods with upper level ridges over and to the west of the state. These combinations of phenomena responsible for the rainfall shortage are indicative of how El Nino affects weather in the state of Hawaii.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## HAWAII

During the second half of the month, the ridge at all levels of the atmosphere shifted north. This resulted in the surface high northeast of the islands strengthening and moving to a more average early spring position. The shift in weather patterns brought stronger trade winds, which then produced more trade wind showers for the windward sides of the islands. This added rainfall has helped relieve some of the very dry conditions in windward areas. However, much more rain is needed to get beyond the longer term drought situation.

Oahu:

Below average precipitation again occurred in March as frontal systems that usually pass through or near the islands did not materialize. The greatest negative anomaly was in the leeward parts of the island, especially the central and southwest sections. The southwest side of Oahu, in the Waianae area (which is leeward of the Waianae Mountain range), saw the driest conditions. Only 2 to 20 percent of average precipitation (0.04 to 0.61 inches) occurred. Even what are usually the wettest sections of the island, the northeast facing windward areas and higher elevations of the Koolau Mountain range, received only 25 to 45 percent of average rainfall.

Maui County:

Molokai and Lanai were below average at reporting stations, with Lanai City receiving 1.64 inches (44 percent of average rainfall). Island of Maui reporting stations showed below average precipitation at all locations as well. Negative anomalies were especially noted in areas with a dependence on synoptic scale precipitation in March, such as Lahainaluna, Kihei, and Ulupalakua. This continues the several month period of very dry conditions in those locales. Zero to 18 percent of average rainfall occurred in those areas, with no rain at Kihei and 0.42 of an inch at Lahainaluna. The rainfall total for Kihei over the past 8 months has been 1.83 inches, which is only 14 percent of the average of 13.5 inches.

Hawaii County:

A dry pattern continued on the Big Island, with all areas seeing well below average rainfall. However, this is one island where the return of trade winds and showers was significant in helping to relieve some of the driest conditions in the state.

The island wide negative precipitation anomaly is likely due to the decreased frequency of frontal systems and, also, possibly due to weaker or drier than average trade winds in the first half of the month. The Kona side of the island, dependent on convective precipitation and, this time of the year, on synoptic scale precipitation patterns, was well below average at all reporting locations. Honaunau, south of Captain Cook, and Kealahou were stations with the greatest negative rainfall anomaly with only 8 and 18 percent of average precipitation, 0.42 of an inch and 0.99 of an inch, respectively.

Kauai:

All reporting stations had below average rainfall for the month. The most negative anomalous precipitation amounts in March occurred in the south and southwest portions of the isle, with only 22 to 38 percent of average rainfall there. The east side of the island from Kapahi to Lihue received the greatest amounts of precipitation, but the totals were only 45 to 73 percent of average.

The following are rainfall statistics (in inches) for selected locations on Oahu, Maui, the Island of Hawaii, and Molokai for March 1998. For comparison, the average for the month and percent of average, respectively, are listed for each site in the next two columns. The following two columns represent the rainfall totals and average rainfall totals for the three month period January-March. The last three columns show rainfall totals from March 1994, March 1987, and March 1983, which were other El Nino-influenced time periods.

	Mar. 98	Avg.	%Avg.	3 Month	Avg./3 months	Mar94	Mar87	Mar83
<b>Oahu</b>								
Honolulu	0.03	2.2	1	1.01	8.0	3.77	0.31	0.53
Waianae	0.04	2.5	2	0.87	8.6	4.23	0.15	1.66
Hawaii Kai	0.87	3.9	22	2.48	11.7	4.80	0.40	N/A
<b>Manoa</b>								
Lyon A	5.92	14.4	41	14.69	37.8	27.43	4.17	2.12
Waialua	0.24	3.8	6	2.90	13.3	4.14	1.62	2.03
Ahuimanu (windward)	2.30	10.6	22	10.43	31.9	N/A	4.80	N/A
<b>Maui</b>								
Kahului	0.18	2.7	7	1.03	9.7	4.23	0.57	1.12
Hana	1.16	9.5	12	2.36	25.8	27.54	3.50	2.32

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm	
					Killed	Injured	Property	Crops		
<b>HAWAII</b>										
	Kihei		0.00	2.1	0	0.73	8.4	2.07	0.03	0.18
	Lahainaluna		0.42	2.4	18	0.64	9.5	1.28	0.00	0.00
	Wailuku		0.71	3.6	20	2.27	12.6	9.99	2.27	1.40
	Island of Hawaii									
	Hilo		3.67	13.9	26	6.21	34.1	18.48	4.79	0.05
	Pahala		0.32	6.3	5	0.54	20.1	8.20	0.96	0.52
	Honaunau									
	(Captain Cook)		0.42	5.1	8	1.46	12.0	2.66	2.00	0.01
	Kamuela		2.57	7.9	33	7.58	20.5	3.31	1.35	0.09
	Laupahoehoe		6.02	19.5	31	9.46	46.2	N/A	4.77	0.01
	Molokai									
	Kaunakakai		0.38	1.8	21	2.51	7.7	0.00	0.00	0.40

Commercial flower growers on the Island of Hawaii continued to suffer under drought conditions. Many farmers were conserving what they had already planted and were not putting new plants in the ground. Federal officials had estimated production losses of about 20 percent from December through mid-February. Growers fear the losses will climb, costing them millions of dollars.

The drought reached a critical level in parts of Maui. The flow in the Wailoa ditch dropped to 21 million gallons. During average, wetter winter months, the level may range from 100 to 150 million gallons per day. Maui County Mayor Linda Lingle asked Governor Ben Cayetano to declare a drought emergency in Upcountry Maui. If an emergency was declared, the Maui Department of Water Supply would then seek to suspend environmental constraints that were keeping three East Maui wells out of use. Upcountry Maui residents were under a mandatory 10 percent water consumption restriction. Officials then asked the residents to voluntarily cut back usage by 25 percent, except for farmers.

On the other hand, emergency water restrictions were lifted for a large part of the Puna District on the Island of Hawaii after a disabled well was repaired and brought back on line. A water conservation notice asking residents to reduce water use by 10 percent remained in place, but the mandatory restrictions were removed.

**HIZ001>006**

**Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai**  
**09 1200HST** **0 0** **High Surf**  
**10 1800HST**  
 Storm low far northwest of the Hawaiian Islands generated surf of 8 to 12 feet on north and northwest facing shores on all the islands.

**Honolulu County  
Pearl City**

**11 1200HST** **0 0** **Wild/Forest Fire**  
**16 1800HST**  
 No structures were damaged as a brush fire that burned more than 1200 acres came close to Waiawa Correctional Center and Pearl City Industrial Park, forced a brief closure of H-2 freeway lanes, and blanketed residents of Waipio Gentry subdivision with a pall of smoke and ash. Much of the area scorched was steep slope, out of the reach of firefighters on foot. The estimated cost of Army helicopter flight hours to help douse the fire from above was \$75,000.

**HIZ001>006**

**Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai**  
**11 2000HST** **0 0** **High Surf**  
**12 1300HST**  
 Intense storm low far north/northwest of the state produced surf of 8 to 10 feet on west facing shores of all the islands.

**HIZ001>006**

**Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai**  
**11 2000HST** **0 0** **High Surf**  
**13 0600HST**  
 Intense storm low far north/northwest of the state caused surf of 10 to 15 feet on north and northwest facing shores on all the islands.

**HIZ001>006**

**Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai**  
**13 1200HST** **0 0** **High Surf**  
**15 0600HST**  
 Intense storm low far north/northwest of the state produced surf of 10 to 15 feet on west facing shores on all the islands.

**HIZ001>006**

**Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai**  
**13 1200HST** **0 0** **High Surf**  
**16 0200HST**  
 Intense storm low far north/northwest of the Hawaiian Islands generated surf of 12 to 18 feet on all north and northwest facing shores of all the islands.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## HAWAII

### Hawaii County Pahoa

14	1500HST								
17	0900HST				0	0			Wild/Forest Fire

A brush fire that seared more than 150 acres threatened the Leilani Estates subdivision south of Pahoa.

### HIZ001>006

#### Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai

17	1200HST								
18	0400HST				0	0			High Surf

Storm low far northwest of the state caused surf of 6 to 12 feet on north and northwest facing shores of all the islands.

### HIZ001>006

#### Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai

19	1000HST								
20	0100HST				0	0			High Surf

Storm low far northwest of the islands produced surf of 8 to 10 feet on north and northwest facing shores of all the isles.

### HIZ004

#### Island Of Hawaii

21	0600HST								
23	0900HST				0	0			High Wind (G61)

West to northwest winds of 50 to 70 mph occurred near the summits of Mauna Kea and Mauna Loa.

### HIZ001>006

#### Kauai - Oahu - Maui - Island Of Hawaii - Molokai - Lanai

22	1100HST								
24	1800HST				0	0			High Surf

Stationary storm low far northeast of the state caused surf of 12 to 18 feet on north and northeast facing shores of all the islands.

## IDAHO, Extreme Southeast

NONE REPORTED.

## IDAHO, North

NONE REPORTED.

## IDAHO, Northwest

### IDZ001-001-004

#### Northern Panhandle - Shoshone

04	0830PST								
05	0450PST				0	0	25K	0	Heavy Snow

Multiple trucks jackknifed on Hwy 95 just north of Bonners Ferry due to snow and ice

### Nez Perce County Lewiston

05	1645PST								
					0	0	0	0	Funnel Cloud

Spotter reported funnel cloud which did not touch down

## IDAHO, Southeast

### Bannock County

#### Lava Hot Spgs

24	0840MST								
	0852MST				0	0			Hail (0.75)

## IDAHO, Southwest

### IDZ004

#### Shoshone

01	2200MST								
02	0600MST				0	0			Heavy Snow

### IDZ005>006-011

#### Northern Clearwater Mountains - Southern Clearwater Mountains - West Central Mountains

01	2200MST								
02	0600MST				0	0			Winter Storm

During the night of March 1st a winter storm dumped 4 to 8 inches of snow upon the West Central Mountains, Clearwater Mountains and Shoshone County. Kellogg received 8 inches of new snow.

### IDZ014

#### Upper Treasure Valley

04	0500MST								
	0800MST				0	0			Winter Storm

On the morning of March 4, a local snow shower produced 3 inches of accumulation over south east Boise. Twenty to thirty minor traffic accidents disrupted traffic on area roadways.

### IDZ021>022

#### Lower Snake River Plain - South Central Highlands

04	1400MST								
	2100MST				0	0			Winter Storm

A wintry mix of snow, slush and ice coated roads and disrupted traffic in south eastern Idaho. Interstate 15 was closed briefly near Pocatello. Numerous minor traffic accidents were reported around the area.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>IDAHO, Southwest</b>									
<b>Twin Falls County</b> 2 S Twin Falls to 2 W Twin Falls	23	1619MST 1625MST			0	0			Tstm Wind/Hail
A severe thunderstorm produced dime and nickel sized hail near Twin Falls.									
<b>IDZ012</b>		<b>Lower Treasure Valley</b>							
	23	2200MST			0	0			Flood
	24	2200MST							
The Weiser River at Weiser rose slightly above flood stage due to snow melt. No damage was reported.									
<b>Canyon County</b> 4 S Caldwell	24	1415MST			0	0			Funnel Cloud
Weather spotters and a local television station reported a small funnel cloud near Caldwell.									
<b>IDZ015&gt;016-022</b>		<b>Southwest Highlands - Western Magic Valley - South Central Highlands</b>							
	29	0000MST 0900MST			0	0			Heavy Snow
Moisture rotating around a low pressure system over Utah encountered a surface disturbance over south central Idaho during the night of March 29th and the morning of March 30th. Local heavy snow fell over the Magic Valley and the surrounding highlands. Pomerelle received 12 inches, Castleford 11 inches with 8 inches at Filer and 7 inches at Jerome.									
<b>ILLINOIS, Central</b>									
<b>ILZ027&gt;031-036&gt;038-040&gt;057</b>		<b>Knox - Stark - Peoria - Marshall - Woodford - Fulton - Tazewell - Mclean - Schuyler - Mason - Logan - De Witt - Piatt - Champaign - Vermilion - Cass - Menard - Scott - Morgan - Sangamon - Christian - Macon - Moultrie - Douglas - Coles - Edgar</b>							
	08	2200CST			2	0			Winter Storm
	09	2200CST							
A storm over the Southern Plains moved northeast bringing rain to the area which switched over to snow in the evening on March 8th. The snowfall persisted overnight with a mixture of freezing rain and snow in our southeastern counties. By the time the snow tapered off, snowfall amounts ranged from 2 inches in Coles county to over 6 inches in Knox, Peoria, and Fulton counties. Numerous accidents were reported with dozens of minor injuries. Two men died in separate accidents in Peoria county as they lost control of their vehicles due to the trecherous road conditions. Even after the snowfall subsided, gusty winds to 50 mph created near white-out conditions in most locations, before subsiding during the evening hours on the 9th. M41VE, M52VE									
<b>Scott County</b> Countywide	27	1725CST 1800CST			0	0		0	Thunderstorm Wind
Numerous large tree limbs and power lines were blown down throughout Scott county.									
<b>Schuyler County</b> Camden to 5 E Rushville	27	1747CST 1810CST			0	2	1M	0	Thunderstorm Wind (G52)
As thunderstorms moved through Schuyler county, they destroyed several barns and grain bins in Camden. A Camden couple sustained injuries after being struck by a tree limb while they were standing in their yard watching the storm pass. Numerous windows were blown out in Rushville and a roof was torn off of a recycling plant 5 miles east of Rushville. The winds caused the rear wall of one business to collapse and another lost its roof in Rushville. Also, numerous cars at two dealerships were damaged, 2 satellite dishes and communications antennas were torn off the roof of a radio station and a storage building was demolished. In total, approximately \$1 million dollars worth of damage was sustained in Schuyler county.									
<b>Cass County</b> Beardstown	27	1808CST			0	0		0	Thunderstorm Wind
Several large trees were blown down and some siding was taken off of one home in Beardstown. No injuries were reported and no damage estimate was available.									
<b>Fulton County</b> Astoria to Farmington	27	1810CST 1843CST			0	0		0	Thunderstorm Wind
A line of severe thunderstorms moved through Fulton county. In Astoria, a couple of mobile homes were damaged, several business signs, trees, tree limbs, and power lines were blown down. At the same time in Avon, numerous power lines and tree limbs were blown down and the township garage sustained some damage. Numerous trees, tree limbs, and power lines were blown down throughout the county. No injuries were reported and no damage estimate was available.									
<b>Sangamon County</b> 2 E Pleasant Plains to Mechanicsburg	27	1825CST 1850CST			0	0	88.5K	0	Thunderstorm Wind





# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>ILLINOIS, Northwest</b>									
<b>Mcdonough County</b> Colchester to Good Hope	27	1813CST			0	0			Thunderstorm Wind (G63)
			Winds were measured 6 miles north of Argyle Lake State Park.						
<b>Mcdonough County</b> Macomb	27	1815CST			0	0	1K		Thunderstorm Wind (G56)
			Car dealership sign was blown down.						
<b>Warren County</b> Roseville	27	1830CST			0	0	2K		Thunderstorm Wind
			Grain bin was blown over.						
<b>Warren County</b> Monmouth	27	1834CST			0	0	0.50K		Thunderstorm Wind
			Window was blown out at County Jail.						
<b>Mercer County</b> Aledo	27	1849CST			0	0			Thunderstorm Wind (G55)
			Numerous trees and power lines were downed.						
<b>Mercer County</b> Preemption	27	1910CST			0	0	3K		Thunderstorm Wind
			Winds knocked down a barn and numerous power poles.						
<b>Rock Island County</b> East Moline	27	1915CST 1918CST			0	0	3K		Thunderstorm Wind
			Police car and another vehicle were damaged when a large sign was blown onto the vehicles.						
<b>Henry County</b> Geneseo	27	1920CST			0	0			Thunderstorm Wind (G60)
			Large tree and power line blown down and blocking Wolf Road near Route 82.						
<b>Rock Island County</b> Moline to Port Byron	27	1920CST			0	0			Thunderstorm Wind (G52)
			Downed trees and power lines caused power outages affecting 3250 electric customers.						
<b>Henry County</b> Geneseo	27	1922CST			0	0			Thunderstorm Wind (G61)
<b>Whiteside County</b> Fulton	27	1925CST			0	0			Thunderstorm Wind (G52)
			Downed trees and power lines caused numerous power outages across the city.						
<b>Bureau County</b> Princeton	27	1933CST			0	0			Thunderstorm Wind (G57)
			Numerous trees and power lines were downed by thunderstorm winds.						
<b>Bureau County</b> Mineral to Wyanet	27	1935CST			0	0			Thunderstorm Wind (G52)
			Many locations were without power across western half of the county.						
<b>Bureau County</b> Wyanet	27	1935CST			0	0			Thunderstorm Wind (G55)
			Numerous trees and limbs were blown down.						
<b>Carroll County</b> Savanna	27	2012CST			0	0			Thunderstorm Wind (G58)
			Trees and power lines were down across Route 40 East of Savanna.						
<b>Carroll County</b> Savanna to Wacker	27	2016CST			0	0			Thunderstorm Wind (G60)
			Large blown down tree was blocking Wacker Road.						
<b>ILLINOIS, South</b>									
<b>ILZ092</b>									
	<b>Alexander</b>								
	21	0200CST			0	0			Flood
	28	1000CST							
			The Mississippi River crested at 35.5 feet at Thebes, where flood stage is 33 feet. This resulted in minor flooding of agricultural bottomlands and river access roads.						

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## ILLINOIS, South

### **ILZ087-092>094**

#### **Gallatin - Alexander - Pulaski - Massac**

22 0600CST  
31 2359CST

0 0

**Flood**

The Ohio River crested just above flood stage at several locations. This resulted in some minor flooding of agricultural bottomlands and river access roads. The river crested right at the 37 foot flood stage at Brookport, 3 feet above the 33-foot flood stage at Shawneetown, and 4.6 feet above the 40-foot flood stage at Cairo.

### **ILZ084**

#### **Jackson**

22 0800CST  
31 2359CST

0 0

**Flood**

The Big Muddy River crested almost 10 feet above its 16-foot flood stage at Murphysboro. The flooding was aggravated by high water on the Mississippi River, which backed up the Big Muddy River. Moderate flooding of some agricultural areas and river access roads occurred.

### **ILZ076-084**

#### **Wayne - Jackson**

26 1100CST  
1500CST

0 0

**10K**

**High Wind (G50)**

Strong south winds averaged 20 to 30 MPH with higher gusts. Gusts were estimated near 58 MPH on the higher elevations from Marion and Carbondale northeast to Fairfield in Wayne County. Limbs, branches, and a few power lines were blown down in these areas. No significant or widespread damage occurred. The strong winds were caused by low pressure over the Plains interacting with high pressure over the Atlantic coast.

### **Franklin County**

#### **5 S Benton**

28 0030CST

0 0

**Thunderstorm Wind (G52)**

Strong thunderstorm winds snapped trees along Interstate 57 between Benton and West Frankfort.

## ILLINOIS, Southwest

### **ILZ058>059-095>097-099>100**

#### **Greene - Macoupin - Adams - Brown - Pike - Jersey - Madison**

08 2300CST  
09 1300CST

0 0

**Winter Storm**

A late winter snow storm dropped between 1 to 6 inches of snow across west central and southwest Illinois. The heaviest snow fell across west central Illinois, with up to 8 inches reported in a few locations in Adams County. Traffic tie-ups and slowdowns were the major problems caused by the storm.

### **Calhoun County**

#### **Hardin**

27 1736CST

0 0

**Thunderstorm Wind (G50)**

Thunderstorm wind gusts downed trees in Hardin.

### **Brown County**

#### **Mt Sterling**

27 1740CST

0 0

**Thunderstorm Wind (G56)**

### **Brown County**

#### **Timewell**

27 1747CST

0 0

**Thunderstorm Wind (G56)**

A tractor trailer truck was blown over on Highway 24 near Timewell. Skywarn spotters reported wind gusts from 60 to 70 mph.

### **Jersey County**

#### **Jerseyville**

27 1750CST

0 0

**Thunderstorm Wind (G52)**

Thunderstorm wind gusts downed trees and power lines.

### **Macoupin County**

#### **14 W Carlinville**

27 1800CST

0 0

**Thunderstorm Wind (G55)**

Thunderstorm wind gusts destroyed a storage building and blew part of the roof off a barn.

### **Greene County**

#### **Carrollton**

28 0208CST

0 0

**Hail (0.75)**

## INDIANA, Central

### **Bartholomew County**

#### **5 W Columbus**

08 2158EST

0 0

**Hail (0.75)**

### **Marion County**

#### **Lawrence**

08 2224EST

0 0

**Hail (0.88)**

### **INZ028>029-035-043>044**

#### **Warren - Tippecanoe - Fountain - Vermillion - Parke**

10 0700EST  
18 0700EST

0 0

**Flood**

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## INDIANA, Central

Rainfall of one to three inches on March 9 and March 10 brought the Wabash River above bankful to effect some local river roads and bottomland agricultural areas before planting season.

**INZ028>029-035-043>044-051-060-067**

**Warren - Tippecanoe - Fountain - Vermillion - Parke - Vigo - Sullivan - Knox**

19	0700EST				0	0			<b>Flood</b>
31	0700EST								

Rainfall of 1 to 3 inches mainly falling on the 18th of March renewed flooding again on the Wabash River. The flooding again impacted mainly river roads and bottomland agricultural areas before spring planting season. The river exceeded flood stages by one to four feet. The flooding continued through the end of March and into early April. These same counties will be listed again in April Storm Data to show the ending of the flooding episode.

**INZ053>054-061-067>068**

**Owen - Morgan - Greene - Knox - Daviess**

21	0700EST				0	0			<b>Flood</b>
27	2359EST								

Rainfall of 1 to 2 inches around the 20th combined with a relatively wet March brought the White River in central and southwest Indiana out of its banks. Flood stages in most cases were exceeded by several feet but the impact was felt mainly on river roads and bottomland areas prior to spring plantings.

**INZ071**

**Jackson**

21	0700EST				0	0			<b>Flood</b>
24	0700EST								

One to two inches of rain on the 20th brought a small stretch of the East Fork White River several feet above flood stage. This impacted mainly local river roads and bottomland agricultural areas prior to spring planting in the Seymour area.

**Johnson County  
Princes Lakes**

28	0430EST				0	0	1.5K		<b>Thunderstorm Wind</b>
	0432EST								

Thunderstorm winds blew down trees and power lines.

**Johnson County  
Smith Valley**

28	0430EST				0	0	1.5K		<b>Thunderstorm Wind</b>
	0433EST								

Thunderstorm winds blew down trees and power lines.

## INDIANA, Northeast

**Kosciusko County  
Oswego**

28	0840EST				0	0	1K		<b>Thunderstorm Wind</b>
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trees blown down in town. shed destroyed.

**Miami County  
(Gus)Grissom Afb Per**

28	0905EST				0	0			<b>Thunderstorm Wind (G65)</b>
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**Miami County  
(Gus)Grissom Afb Per**

28	0918EST				0	0			<b>Thunderstorm Wind (G65)</b>
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**Whitley County  
Laud**

28	1005EST	0.1	10		0	0			<b>Tornado (F0)</b>
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small tornado touched down in Laud causing tree damage and moderate damage to one home.

**Allen County  
Ft Wayne**

28	1015EST				0	0	5K		<b>Thunderstorm Wind</b>
	1030EST								

numerous trees blown down up to 12 inches in diameter in southern part of town. Many power lines down as well. Trees up to 2 feet in diameter 3 miles south of Baer Field at US 27 and Thompson Road.

**Allen County  
Harlan**

28	1021EST	0.3	50		0	0	25K		<b>Tornado (F1)</b>
	1023EST								

small tornado touched down in Harlan. It damaged a cabinet factory and completely destroyed a mobile home.

## INDIANA, Northwest

**INZ001>004-010>011**

**Lake - Porter - La Porte - St. Joseph - Newton - Jasper**

09	0800EST				0	0			<b>Heavy Snow</b>
11	1600EST								

A strong low pressure system brought a late winter storm to northwest Indiana the morning of March 9th. The low, which originated in the southwestern U.S., took an east-northeast track, reaching central Illinois by the evening of the 8th. Precipitation in the form of rain began out ahead of this system, and changed over to a heavy, wet snow between 7am and 8am (est). The snow continued into the middle of the afternoon on the 9th, dropping around a foot of snow in some places. Lake induced snow showers followed this main storm event and causing additional snowfall accumulations of 2 to 6 inches.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	

## INDIANA, Northwest

The combination of strong winds and heavy snowfall brought traffic to a standstill on stretches of I-65 and Interstate 80/94 in Indiana. Some drivers were stranded for as long as 18 hours. Many homes were without electricity, as numerous power lines were downed due to the weight of the heavy, wet snow. Also, tree limbs and branches were downed.

Total snowfall storm totals reported:

Lake County: Merrillville-18 inches, and Crown Point-12 inches.

Porter: Valparaiso-15 inches.

LaPorte County: Rolling Prairie-18 inches, Stillwell-16 inches, LaPorte-between 13-16 inches, Michigan City 13.5 inches, and Westville-13.5 inches.

Elkhart County: Elkhart-10.5 inches, and Goshen-between 6-8 inches.

St. Joseph County: South Bend-16.5 inches, Walkerton-14 inches, and in Mishawaka-12 inches.

## INDIANA, South Central

NONE REPORTED.

## INDIANA, Southeast

NONE REPORTED.

## INDIANA, Southwest

**INZ085**

**Posey**

**26 0900CST**

**0**

**0**

**Flood**

**30 1900CST**

The Wabash River crested less than a foot above flood stage at New Harmony, causing very minor flooding of low lying bottomlands.

## IOWA, Central

**IAZ024>028-033>039-044>050-057>062-070>075-081>085-092>096**

**Humboldt - Wright - Franklin - Butler - Bremer - Sac - Calhoun - Webster - Hamilton - Hardin - Grundy - Black Hawk - Crawford - Carroll - Greene - Boone - Story - Marshall - Tama - Audubon - Guthrie - Dallas - Polk - Jasper - Poweshiek - Cass - Adair - Madison - Warren - Marion - Mahaska - Adams - Union - Clarke - Lucas - Monroe - Taylor - Ringgold - Decatur - Wayne - Appanoose**

**07 2100CST**

**1**

**0**

**2M**

**Heavy Snow**

**08 2359CST**

A powerful storm system developed over the southern Rockies and advanced into the southern Plains. The storm moved northeast across Missouri into Illinois leaving Iowa in the deformation zone for an extended period of time. While the low was advancing northeast, a strong Arctic high pressure cell located over northern Canada dropped southeast toward the U.S. The high was near 1055 mb, while the low pressure was near 990 mb. This resulted in a tight pressure gradient over Iowa through the storm. An initial area of light snow advanced across the state and changed to freezing rain and sleet over the southwest and central counties during the evening of the 7th. The ice accumulation was not very significant however. The precipitation changed over to snow during the late evening and early morning hours. By the predawn hours of the 8th, significant snow was falling over a large part of southwest into central Iowa. During the late night hours into the early morning of the 8th, the snow became convective with thundersnow reported as far north as central Iowa. Winds increased on the 8th with north winds of 30 to 50 MPH reported over all of Iowa on the 8th into the 9th. The snow was very wet in consistency. As a result, there was considerable drifting and some blowing. True blizzard conditions did not occur over a widespread area, but were reported locally. The winds caused huge drifts which blocked most east to west highways in the state. Snowfall over the area affected ranged from 8 to 12 inches in most areas. Heavier amounts were reported over central into southwest Iowa. Numerous reports of 12 to 14 inches were received in a 30 mile wide area extending from Des Moines, southwest to the southwest Iowa border. One of the heaviest storm total snowfall reports came from Windsor Heights with 15.4 inches. Indianola and Perry both reported between 13.5 and 14 inches of snow. Some unofficial reports from around the Creston area were received in the 20 inch range. Sixteen inches was reported in Clarke County and also in Carroll County. With the large amounts of snow and the winds, drifts of 15 to 20 feet in depth were common. The heavy drifts closed most highways in the state on the 8th. One death occurred. An 81 year old Female died of exposure when she attempted to travel from the Osceola Nursing and Rehabilitation Center to the Calvery Bible Church. Churches were closed over a large part of Iowa. Shopping malls were closed for the entire day Sunday. School districts were already closing on Sunday for Mondays classes. Many schools remained closed for 2 to 3 days. Hundreds of people were stranded by the snow and forced to stay put for one to two days. Spotty power outages occurred, but there were no reports of widespread power outages. With conditions as they were, a few areas were without power for 4 days. The storm was costly in terms of snow removal. The State of Iowa estimated the storm cost \$4 million to clear highways. Four days after the snow fell, the Iowa D.O.T. reported in excess of 1000 miles of highway still blocked by snow. The National Guard was called out to help rescue people as well. Eleven counties were declared disaster areas by the State of Iowa. They were Polk, Adams, Madison, Warren, Mills, Montgomery, Adams, Union, Clarke, Page, and Taylor. Following the storm, Arctic air swept into the state to make matters worse. Temperatures dipped to -24 at Bedford and

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## IOWA, Central

Guthrie Center on the morning of the 12th. These temperatures were both the coldest ever recorded so late in the season. Most of the state fell below zero for at least one to two nights following the storm. It is significant to note that following the very mild weather conditions of February, flowering plants and trees were fairly advanced. Serious damage occurred to much of the state fruit crop, however true extent will not be known for many months.

\ F81OU

**IAZ004>007-015>017-023>028-033>039-044>050-057>062-070>075-081>086-092>097** **Emmet - Kossuth - Winnebago - Worth - Palo Alto - Hancock - Cerro Gordo - Pocahontas - Humboldt - Wright - Franklin - Butler - Bremer - Sac - Calhoun - Webster - Hamilton - Hardin - Grundy - Black Hawk - Crawford - Carroll - Greene - Boone - Story - Marshall - Tama - Audubon - Guthrie - Dallas - Polk - Jasper - Poweshiek - Cass - Adair - Madison - Warren - Marion - Mahaska - Adams - Union - Clarke - Lucas - Monroe - Wapello - Taylor - Ringgold - Decatur - Wayne - Appanoose - Davis**

17	0200CST								
	1400CST				0	0	299.9K		Ice Storm

Following the heavy snow from about 10 days earlier, Arctic air held its grip on Iowa for much of the week or so following. With the shallow Arctic air in place, the stage was set for an ice storm. Sub freezing temperatures were in place over Iowa during the early morning hours of the 17th as winds became southerly aloft in advance of an approaching upper level low pressure area. Light freezing rain began to fall over southern Iowa shortly after midnight and spread north quickly. Amounts were not all that excessive, with most areas picking up about one tenth inch of ice across the south third of the state by sunrise on the 17th. Amounts over the central and north were light at this point. Heavier freezing rain spread into the north two thirds of the state during the early morning of the 17th. By noon, the temperatures warmed above freezing over the southern part of the state, while the freezing rain continued to fall over the north and parts of the central counties. By mid afternoon, temperatures over the central and north parts of the state had warmed to near to a little above freezing. Even though readings were below freezing over the north, the strong March sun was able to warm roads and trees to the point that icing was no longer a problem. The total accumulation of ice over the central and north was generally under one quarter inch. Travel was difficult over Iowa for a period of time. Many school districts cancelled classes for the day due to the ice. There was little damage however as there was little wind and the ice accumulation was not great enough to overload trees and power lines. There were some spotty power outages, but nothing widespread.

### **Black Hawk County**

8 S Waterloo	30	1330CST			0	0			Hail (0.88)
<b>Dallas County</b>									
Waukee	30	1438CST			0	0			Hail (0.75)
<b>Dallas County</b>									
3 E Waukee	30	1438CST			0	0	2K		Hail (1.50)
<b>Polk County</b>									
Grimes	30	1447CST			0	0	1K		Hail (1.00)
<b>Polk County</b>									
West Des Moines	30	1448CST			0	0			Hail (0.75)
<b>Polk County</b>									
Ankeny	30	1455CST			0	0	1K		Hail (1.00)
<b>Marion County</b>									
Red Rock	30	1530CST			0	0			Hail (0.75)
<b>Mahaska County</b>									
New Sharon	30	1600CST			0	0	50K		Thunderstorm Wind (G61)
<b>Black Hawk County</b>									
8 S Waterloo	30	1616CST			0	0			Hail (0.75)
<b>Lucas County</b>									
6 S Chariton	30	1618CST			0	0			Hail (0.75)
<b>Davis County</b>									
1 W Troy	30	1630CST			0	0	50K		Thunderstorm Wind (G61)
<b>Monroe County</b>									
Albia	30	1653CST			0	0			Hail (0.75)
<b>Monroe County</b>									
3 NE Avery	30	1706CST			0	0			Hail (0.75)
<b>Wapello County</b>									
Eddyville	30	1714CST			0	0	3K		Thunderstorm Wind (G52)
<b>Davis County</b>									
Drakesville	30	1720CST			0	0	15K		Thunderstorm Wind (G56)
<b>Wapello County</b>									
1 NW Farson	30	1722CST			0	0	10K		Thunderstorm Wind (G52)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## IOWA, Central

### **Wapello County 2 W Ottumwa**

**30 1735CST 0.2 30 0 0 10K Tornado (F1)**

A strong cold front extended from central Wisconsin across central Iowa into eastern Kansas during the early afternoon hours. There was a great contrast across the front with temperatures in the upper 70s to low 80s ahead of the front, with 30s and 40s behind the front. The air mass ahead of the front was quite unstable with surface dew point temperatures around 60 degrees. Deep moisture was in place across the state. An upper level disturbance moved northeast along the front and set off thunderstorms in the vicinity of the cold front. The storms raced northeast at nearly 60 MPH. The main weather threat with the storms was hail with numerous reports of three quarter to one inch diameter hail. Hail covered the ground south of Waterloo. Hail of nearly golf ball size fell just west of Des Moines near Waukee. Though there were gusty winds associated with the storms, very few locations reported severe winds. There were several reports of high winds over southeast Iowa. Most of the wind reports came from Wapello, Mahaska, and Davis Counties. One report of 60 MPH winds was received in Wapello County at Eddyville. Winds of 70 MPH were reported over eastern Davis County, where a barn was destroyed, and in Mahaska County where damage occurred in New Sharon. The line of storms did produce one tornado. The tornado touched down briefly west of Ottumwa, damaging a house there.

### **IAZ075-083>086- 094>097**

#### **Mahaska - Clarke - Lucas - Monroe - Wapello - Decatur - Wayne - Appanoose - Davis**

**30 1800CST 0 0 90K Flood**  
**31 2359CST**

Most of the precipitation in Iowa for the month fell in two storms. The first was mentioned above with the heavy snow event on the 8th. As the snow melted, snow melt and rainfall brought rivers to near or just slightly above flood stage. Heavy rainfall on the 29th and 30th brought up to 4 inches of rain over parts of southeast Iowa, with 1 to 2 inches elsewhere. Areas that were previously dry, mainly in the upper Des Moines and Raccoon Basins, became saturated. Some minor flooding occurred over the southeast part of the state with some rivers rising a few feet above flood stage. The smaller South river rose nearly 8 feet above flood stage. Damage was minor however. At month's end, reservoirs in central and southern Iowa were rising with flood control capacity reduced by around 30 percent.

## IOWA, East Central and Southeast

### **IAZ040>042-051>053- 063-076-087**

**08 1000CST 0 0 Heavy Snow**  
**09 1100CST**

#### **Benton County 4 W Vinton**

**30 1409CST 0 0 Hail (1.75)**

#### **Delaware County Delaware**

**30 1444CST 0 0 Hail (1.00)**

#### **Linn County Palo**

**30 1700CST 0 0 Heavy Rain**

Strong thunderstorm dumped 3 inches of rain on Palo

#### **Jefferson County Fairfield**

**30 1816CST 0 0 Thunderstorm Wind (G52)**

#### **Des Moines County Yarmouth**

**30 1958CST 0 0 Hail (0.75)**

#### **Clinton County .5 E Delmar**

**30 2028CST 0 0 Funnel Cloud**

Numerous roads and schools were closed across East Central Iowa and Northwest Illinois after heavy bands of snow deposited 4 to 12 inches of snow across the region. Many vehicles were stranded along I-80 and I-380 as gusty winds whipped the snow into drifts up to 8 feet high.

## IOWA, Northeast

### **IAZ011-019-029>030**

**Allamakee - Chickasaw - Fayette - Clayton**  
**08 0400CST 0 0 Winter Storm**  
**2100CST**

6 to 12 inches of snow was accompanied by strong north winds, restricting visibility to near zero at times and creating 3 foot drifts.

#### **Fayette County Wadena**

**29 0940CST 0 0 Hail (0.75)**

#### **Clayton County St Olaf**

**29 1005CST 0 0 Hail (0.75)**

#### **Chickasaw County Alta Vista**

**29 1338CST 0 0 Hail (0.75)**

Law enforcement officials and storm spotters reported dime size hail over parts of northeast Iowa.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## IOWA, Northwest

NONE REPORTED.

## IOWA, Southwest

**IAZ055-069-079>080-090>091**     **Harrison - Pottawattamie - Mills - Montgomery - Fremont - Page**

<b>07</b>	<b>1600CST</b>								
<b>08</b>	<b>1500CST</b>				<b>0</b>	<b>0</b>			<b>Winter Storm</b>

A major winter storm moved through the central plains and created near blizzard conditions over portions of southwest Iowa. Heavy snowfall of 8 to 14 inches combined with strong northerly winds of 40 to 45 mph created considerable blowing snow with 6-15 foot drifts common. Schools and businesses were closed for a few days as the strong winds continued to cause blowing snow making the task of cleaning up very difficult.

## KANSAS, East

**KSZ008>012-020>024-026-034>040-054>055**     **Republic - Washington - Marshall - Nemaha - Brown - Cloud - Clay - Riley - Pottawatomie - Jackson - Jefferson - Ottawa - Dickinson - Geary - Morris - Wabaunsee - Shawnee - Douglas - Lyon - Osage**

<b>07</b>	<b>1700CST</b>								
<b>08</b>	<b>2100CST</b>				<b>1</b>	<b>9</b>	<b>150K</b>		<b>Blizzard</b>

A snowstorm accompanied by blizzard conditions dumped 6 or more inches of snow northwest of the Kansas Turnpike. A swath of 10 or more inches fell along and north of a line from Holton in Jackson County to Belleville in Republic County. Sabetha reported the most snow with 18 inches. Other higher amounts included Centralia 15, Blaine 13, and Holton 11. Belleville, Washington, and Frankfort all received 10 inches. Strong winds combined with the snow to produce near white out conditions in many areas and forced the closing of at least 22 US and state highways, including 60 miles of interstate 70 from the west side of Topeka to near Junction City. US Highway 75 was closed between Topeka and the Nebraska boarder. Numerous accidents and stranded cars were reported. One fatal accident occurred in northern Dickinson County due to a head on collision between two cars. Snowfall totals decreased dramatically southeast of the Kansas Turnpike with little accumulation south of Interstate 35.

The snow began accumulating in North Central Kansas during late afternoon on the 7th. Rain in Northeast and East Central Kansas gradually changed to snow from early evening to shortly after midnight. Winds increased after midnight on the 8th with gusts between 30 and 50 mph creating blizzard or near blizzard conditions by noon, mainly northwest of the Kansas Turnpike. Drifts of 4 to 7 feet were common with drifts exceeding 10 feet reported in extreme cases. F45VE

**KSZ035-037-054>055-058>059**     **Dickinson - Morris - Lyon - Osage - Coffey - Anderson**

<b>19</b>	<b>0900CST</b>								
	<b>2000CST</b>				<b>0</b>	<b>0</b>	<b>10K</b>		<b>Snow</b>

A small but strong storm produced a heavy wet snow but accumulations were held down due to mixed precipitation, warm ground, and temperatures slightly above freezing. Accumulations ranged from 2 to 4 inches south of a line from Garnett in central Anderson County to Abilene in central Dickinson County. Diamond Springs received a locally higher amount of 6 inches. Other amounts included Colony 4, Neosho Rapids 3, Osage City 2, Miller 2, and Council Grove 2.

## **KSZ039**

**Shawnee**

<b>26</b>	<b>0700CST</b>								
	<b>1200CST</b>				<b>0</b>	<b>0</b>			<b>High Wind (G44)</b>

Winds gusted to around 50 mph, resulting in a grounding wire being torn from a voltage line in the southwest part of Topeka. Forbes Field on the south end of town officially reported a gust to 51 mph at 1027 AM.

### **Dickinson County**

Sand Spg	27	0630CST							
					<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>

### **Coffey County**

3 S Le Roy	27	1730CST							
					<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>

### **Anderson County**

3 E Westphalia	27	1747CST							
					<b>0</b>	<b>0</b>			<b>Hail (1.00)</b>

### **Ottawa County**

3 SW Tescott	29	2000CST							
					<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>

### **Cloud County**

5 NE Miltonvale	29	2020CST							
					<b>0</b>	<b>0</b>			<b>Hail (1.75)</b>

### **Cloud County**

Aurora	29	2020CST							
					<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>

### **Ottawa County**

Tescott	29	2055CST							
					<b>0</b>	<b>0</b>			<b>Hail (1.00)</b>

### **Clay County**

Morganville	29	2145CST							
					<b>0</b>	<b>0</b>			<b>Hail (1.00)</b>

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>KANSAS, East</u></b>									
<b>Marshall County</b> Marysville	29	2243CST			0	0			Hail (0.75)
<b>Washington County</b> Morrowville	29	2350CST			0	0			Hail (0.75)
<b>Wabaunsee County</b> Volland	30	0330CST			0	0	2K		Thunderstorm Wind (G50)
Strong winds destroyed a hay shed and tore shingles off the roof of a house.									
<b>Pottawatomie County</b> Blaine	30	1030CST			0	0			Hail (1.00)
<b>Lyon County</b> 2 E Admire	30	1205CST			0	0			Hail (1.00)
<b>Wabaunsee County</b> 2 NW Harveyville	30	1205CST			0	0			Hail (0.75)
<b>Shawnee County</b> 6 SW Topeka	30	1220CST			0	0			Hail (0.75)
<b>Osage County</b> Melvern	30	1406CST			0	0			Hail (0.75)
<b>Jefferson County</b> 5 SW Mc Louth	30	1425CST			0	0			Hail (0.75)
<b>Douglas County</b> 2 W Lawrence	30	1438CST			0	0			Hail (0.75)

**KANSAS, Extreme Southeast**

NONE REPORTED.

**KANSAS, North Central**

**KSZ005>007-017>019 Phillips - Smith - Jewell - Rooks - Osborne - Mitchell**  
 07 1600CST 0 0 300K 0 Winter Storm  
 12 1200CST

A strong, late season winter storm belted north central Kansas with near blizzard conditions and 6 to 12 inches of snow over the weekend. The storm developed in the southwest United States and slowly moved northeast across the Central Plains. A mixture of light rain and freezing rain fell across north central Kansas on Saturday the 7th, before changing to snow in the evening. The snow, heavy at times, lasted through the night before ending by midday on Sunday, the 8th.

On Sunday, an increasing north wind gusting to 50 mph resulting in six foot drifts, impassible roads and near blizzard conditions. Fortunately, ample lead time and accurate forecasts give most residents the choice to stay at home, thus limiting the number of accidents on area roads. The dollar amount of losses were primarily to livestock that didn't survive the storm. In Rooks County, 500 head of cattle were reported killed.

Once the wind subsided some by Monday morning of the 9th, folks were left with the task of digging out just as record cold settled across the region. Morning low temperatures dropped below zero in spots on the 9th, 10th, and 11th. Despite sunshine, afternoon highs struggled for 25 degrees.

**KSZ005>007-017>019 Phillips - Smith - Jewell - Rooks - Osborne - Mitchell**  
 15 0600CST 0 0 75K 0 Ice Storm  
 17 1800CST

As temperatures remained steady near the freezing mark, freezing rain left a thick coating of ice on just about everything in north central Kansas. The most significant icing occurred the night of the 16th. Widespread power outages were reported from Mankato to Phillipsburg. Roads were nearly impassible with several minor accidents reported.

<b>Osborne County</b> 3 S Osborne	29	2241CST			0	0	0	0	Hail (0.75)
<b>Osborne County</b> Downs	29	2305CST			0	0	0	0	Hail (0.88)
<b>Mitchell County</b> Glen Elder	29	2308CST			0	0	0	0	Hail (0.75)
<b>Jewell County</b> Mankato	29	2312CST			0	0	0	0	Hail (0.75)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## KANSAS, Northeast

### **KSZ057**

#### **Miami**

**18 0000CST**

**0 0**

**Flood**

**19 2359CST**

Minor flooding occurred along the Marais Des Cygnes River on the 18th and 19th.

Marais Des Cygnes River  
Osawatomie, KS

Flood Stage 28 ft  
Above Flood Stage 3/18 to 3/19  
Crest Estimated 29.0 ft on 3/18

### **Miami County**

**3 NW Paola**

**27 1859CST**

**0 0**

**Hail (0.88)**

Nickel-size hail was reported by the public 3 miles northwest of Paola.

### **Atchison County**

**3 SE Muscotah**

**30 1250CST**

**0 0**

**Hail (1.00)**

The Atchison County Sheriff's office reported one inch diameter hail during a severe thunderstorm 3 miles southeast of Muscotah.

### **Leavenworth County**

**Basehor to  
Lansing**

**30 1428CST  
1440CST**

**0 0**

**Hail (1.75)**

Police at Basehor reported golfball-size hail during a severe thunderstorm in Basehor. Elsewhere, Lansing Police reported dime-size hail during the same thunderstorm in Lansing.

## KANSAS, Northwest

### **KSZ003>004-015>016-029 Decatur - Norton - Sheridan - Graham - Gove**

**07 0600CST**

**0 0**

**Winter Storm**

**08 0600CST**

Snowfall of 5 to 10 inches accompanied by winds 30-40 mph whipped up drifts 6 to 8 feet.

### **KSZ041>042**

#### **Greeley - Wichita**

**18 1800CST**

**0 0**

**Winter Storm**

**19 0600CST**

Snowfall of 5 to 7 inches was accompanied by winds 15 to 25 mph. The heaviest snow was over the southern half of the counties.

### **Sherman County**

**10 S Goodland**

**26 1837MST**

**0 0**

**Hail (0.88)**

### **Wallace County**

**Weskan**

**26 1852MST**

**0 0**

**Hail (0.75)**

Hail up to dime size piled 1.5 inches deep.

### **Wallace County**

**13 SSW Sharon Spgs**

**26 1910MST**

**0 0**

**Hail (0.75)**

Dime hail also reported 13SW of Sharon Springs at 1903 MST.

### **Thomas County**

**2 S Colby**

**26 2000CST**

**0 0**

**100K**

**Thunderstorm Wind**

Power poles snapped. Two center pivot irrigation rigs destroyed.

### **Thomas County**

**Colby**

**26 2051CST**

**0 0**

**Hail (0.88)**

Amateur radio spotter report.

### **Sheridan County**

**1 SW Selden**

**26 2130CST**

**0 0**

**Hail (0.88)**

### **Wichita County**

**13 N Leoti**

**26 2142CST**

**0 0**

**1K**

**Hail (0.75)**

Hail combined with wind broke windows.

### **Logan County**

**9 NE Russell Spgs**

**26 2145CST**

**0 0**

**Hail (0.88)**

Hail accompanied by winds greater than 60 mph.

### **Gove County**

**9 WSW Grinnell**

**26 2215CST**

**0 0**

**Hail (0.88)**

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>KANSAS, Northwest</u></b>									
Hail accompanied by 60-70 mph winds.									
<b>Sheridan County</b>									
8 SE Tasco	26	2230CST			0	0			Hail (0.75)
<b>Gove County</b>									
14 SE Gove	26	2330CST			0	0			Hail (1.00)
<b><u>KANSAS, Southeast</u></b>									
<b>KSZ032&gt;033-047&gt;053-067&gt;069-082</b>	<b>Russell - Lincoln - Barton - Ellsworth - Saline - Rice - Mcpherson - Marion - Chase - Reno - Harvey - Butler - Kingman</b>								
	07	1700CST			0	0			Blizzard
	08	1000CST							
Low pressure positioned over the Utah/Colorado border moved east-southeast to along the Red River on the 7th & 8th. As the low intensified, 6-8 inch snowfalls combined with gusty northeast winds of 40-50 mph to whip up 7-10 foot drifts. Most businesses and highways were closed for 2-3 days. Lesser snowfalls around 3 inches prevailed across Reno, Kingman and Harvey counties but with gusty northeast winds of 40 mph 3-6 foot drifts resulted.									
<b>KSZ032&gt;033-047&gt;050-067-091</b>	<b>Russell - Lincoln - Barton - Ellsworth - Saline - Rice - Reno - Harper</b>								
	16	2000CST			0	0	1M		Ice Storm
	17	1000CST							
Low pressure moving slowly northeast across Oklahoma and southern Kansas induced a strong, sub-freezing northeast surface upslope that, when combined with strong 850-mb warm advection, produced widespread freezing rain across Central and parts of South-Central Kansas. The freezing rain combined with northeast winds of 20-30 mph to produce 1/2-1 inch of glazing across Central Kansas with the greater accumulation across Russell and Barton counties. Extensive damage to trees, power lines and power poles resulted including a 300-foot radio tower that toppled over in northern Russell County.									
<b>KSZ051&gt;052-067&gt;070-082&gt;083-091&gt;093</b>	<b>Mcpherson - Marion - Reno - Harvey - Butler - Greenwood - Kingman - Sedgwick - Harper - Sumner - Cowley</b>								
	19	0600CST 1500CST			0	0			Heavy Snow
Low pressure positioned along the Wyoming/Colorado border dropped southeast to the Texas Panhandle early on the morning of the 19th. As the low lifted northeast across Oklahoma and Missouri it intensified, spreading 6-10 inch snowfalls across South-Central Kansas with locally heavier amounts around 1 foot in parts of Sedgwick, Sumner, Cowley and Butler counties. This was the worst snowstorm to hit South-Central Kansas in 27 years.									
<b>Ellsworth County</b>									
2 SE Black Wolf	29	1945CST			0	0			Hail (0.75)
<b>Lincoln County</b>									
2 NE Westfall	29	1955CST			0	0			Hail (0.88)
<b>Barton County</b>									
Albert	29	2315CST			0	0			Hail (1.00)
<b>Russell County</b>									
9 S Russell	29	2325CST			0	0			Hail (0.75)
<b>Lincoln County</b>									
Vesper	30	0004CST			0	0			Hail (0.75)
<b>KSZ099</b>	<b>Montgomery</b>								
	31	0812CST 0815CST			0	0	100K		High Wind (G65)
High winds around 75 mph tore the roof off a restaurant in Coffeyville.									
<b><u>KANSAS, Southwest</u></b>									
<b>KSZ030&gt;031-043&gt;046-061&gt;066-074&gt;081-084&gt;090</b>	<b>Trego - Ellis - Scott - Lane - Ness - Rush - Hamilton - Kearny - Finney - Hodgeman - Pawnee - Stafford - Stanton - Grant - Haskell - Gray - Ford - Edwards - Kiowa - Pratt - Morton - Stevens - Seward - Meade - Clark - Comanche - Barber</b>								
	07	1346CST			0	0			Blizzard
	08	0300CST							
Blizzard conditions occurred across the area. Almost all of the highways were closed for several hours with 30 to 40 mph winds causing zero or near zero visibilities. Final snowfall totals ranged from 3 to 4 inches in Finney...Seward and Comanche counties to 6 inches in Morton count...7 inches in Gray county and 8 to 10 inches in Stafford...Pratt and Ford counties. Drifts were as high as 8 feet in some areas.									
<b>KSZ044-061-063</b>	<b>Lane - Hamilton - Finney</b>								
	11	0600CST			0	0			Extreme Cold
Extremely cold temperatures occurred with gusty winds. Temperatures fell to 2 degrees at Dighton...6 degrees at Garden City with a									

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of		Estimated		Character of Storm
					Killed	Injured	Property	Crops	

## KANSAS, Southwest

wind chill of -41...and to 8 degrees at syracuse with a wind chill of -30.

**KSZ030-030>031-031-043-043>044-044>045-045>046-046-061>063-063>064-064>065-065>066-066-074>076-076>077-077>078-078>080-080>081-081-084>087**

<b>16</b>	<b>1300CST</b>	<b>0</b>	<b>0</b>	<b>1.2M</b>	<b>Ice Storm</b>
<b>17</b>	<b>0253CST</b>				

Ice storm occurred with anywhere from 1/2 inch of ice accumulation on roadways to several inches of ice accumulations on objects such as radio towers. Every radio station in the area had damage due to the ice accumulation. There was one report of a chunk of ice falling completely through a cab of a pickup. Fortunately...no one was inside at the time. KRPB's 800 foot radio tower completely fell down with a reported 6 inches of ice accumulation. 1450 power poles came down across the area. Power was out for 4 to 6 days in some places. A USDA weather related disaster was declared.

**KSZ030>031-043>046-061>066-074>081-084>087**

<b>16</b>	<b>1300CST</b>	<b>0</b>	<b>0</b>	<b>1.2M</b>	<b>Ice Storm</b>
<b>17</b>	<b>0230CST</b>				

Ice storm occurred with anywhere from 1/2 inch of ice accumulation on roadways to several inches of ice accumulations of objects. Every radio station in the area had damage due to the ice accumulation and ice falling off the towers. There was one report of a chunk of ice falling completely through the cab of a pickup. Fortunately...no one was inside at the time. KRPB's 800 foot radio tower completely fell down with a reported 6 inches of accumulation. 1450 power poles came down across the area. Power was out as long as 6 days in some places. A U.S.D.A weather related disaster was declared. Over 65 utility crews were moved in from as far away as Missouri.

**KSZ030>031-043>046-061>066-074>081-084>090**

<b>18</b>	<b>1442CST</b>	<b>0</b>	<b>0</b>		<b>Winter Storm</b>
<b>19</b>	<b>1253CST</b>				

Total snowfall accumulations ranged from 1 to 2 inches in Ellis and Ness counties...4 to 6 inches in Pawnee...Lane and Scott counties...6 to 8 inches in Pratt...Edwards...Hodgeman and Hamilton counties...and 8 to 12 inches in Stafford...Comanche...Ford...Gray...Finney...Grant...Morton...Seward ...Meade...and Clark counties. 20 to 30 mph winds accompanied the snowfall resulting in visibilities under 1/2 mile and significant drifting of the snow.

**Morton County**  
5 NNE Elkhart

<b>26</b>	<b>2220CST</b>	<b>0</b>	<b>0</b>		<b>Hail (1.00)</b>
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**Stanton County**  
1 N Big Bow

<b>26</b>	<b>2220CST</b>	<b>0</b>	<b>0</b>		<b>Hail (1.75)</b>
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**Grant County**  
9 NW Ulysses

<b>26</b>	<b>2230CST</b>	<b>0</b>	<b>0</b>		<b>Hail (1.00)</b>
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**Kearny County**  
3 W Lakin

<b>26</b>	<b>2237CST</b>	<b>0</b>	<b>0</b>		<b>Hail (0.75)</b>
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**Finney County**  
9 SW Friend

<b>26</b>	<b>2300CST</b>	<b>0</b>	<b>0</b>		<b>Hail (0.75)</b>
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**Scott County**  
4 SW Grigston

<b>26</b>	<b>2315CST</b>	<b>0</b>	<b>0</b>		<b>Hail (1.00)</b>
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**Scott County**  
4 SW Grigston

<b>26</b>	<b>2315CST</b>	<b>0</b>	<b>0</b>		<b>Thunderstorm Wind (G55)</b>
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4 to 6 inch tree limbs blown down.

**Lane County**  
1 SW Healy

<b>26</b>	<b>2325CST</b>	<b>0</b>	<b>0</b>		<b>Hail (1.00)</b>
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**KSZ077**

<b>Gray</b>					
<b>26</b>	<b>2330CST</b>	<b>0</b>	<b>0</b>		<b>High Wind (G75)</b>
	<b>2355CST</b>				

County experienced strong winds behind a line of showers that moved through. A sprinkler irrigation system was overturned. A shed...fence...tree limbs and power lines were blown down. In addition...a cover was blown off a hot tub.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>KANSAS, Southwest</u></b>									
<b>Rush County</b> 14 WSW La Crosse	29	2127CST			0	0			Hail (0.75)
<b>Stafford County</b> 8 N Hudson	29	2200CST			0	0			Hail (1.00)
<b>Clark County</b> Minneola	29	2218CST			0	0			Hail (1.00)
<b>Ford County</b> 4 SW Ford	29	2222CST			0	0			Hail (0.75)
<b>Ford County</b> Ford	29	2248CST			0	0			Hail (1.00)
<b>Edwards County</b> Fellsburg	29	2253CST			0	0			Hail (1.00)
<b>Clark County</b> Minneola	29	2254CST			0	0			Hail (0.75)
<b>Pawnee County</b> Rozel	29	2254CST			0	0			Hail (0.75)
<b>Meade County</b> 7 SE Meade	29	2255CST			0	0			Hail (0.75)
<b>Edwards County</b> Offerle	29	2300CST			0	0			Hail (1.00)
<b>Ford County</b> 3 S Ford	29	2305CST			0	0			Hail (0.75)
<b>Rush County</b> 1 NE Shaffer	29	2310CST			0	0			Hail (0.75)
<b>Kiowa County</b> Haviland	29	2313CST			0	0			Hail (0.88)
<b>Rush County</b> Otis	29	2315CST			0	0	50K		Hail (1.25)
		Damage occurred to vehicles throughout the town.							
<b>Comanche County</b> 6 NW Coldwater	29	2330CST			0	0			Hail (1.00)
<b>Edwards County</b> 3 S Lewis	29	2335CST			0	0			Hail (1.00)
<b>Kiowa County</b> 7 S Greensburg	29	2340CST			0	0			Hail (0.88)
<b>Stafford County</b> 8 N Hudson	29	2350CST			0	0			Hail (1.00)
<b>Stafford County</b> Stafford	29	2350CST			0	0			Thunderstorm Wind (G60)
		Tree limbs blown down and shingles blown off roofs.							
<b>Clark County</b> Englewood	29	2356CST			0	0			Hail (0.75)
<b>Pratt County</b> Byers	30	0007CST			0	0			Hail (0.75)
<b>Kiowa County</b> 1 W Haviland	30	0015CST			0	0			Hail (0.75)
<b>Stafford County</b> 11 SW St John	30	0025CST			0	0			Hail (0.75)
<b>KSZ031</b> Ellis	31	1700CST			0	0	10K		High Wind
		Pieces of a roof blown off of a school.							
<b><u>KENTUCKY, Central</u></b>									
<b>Simpson County</b> Franklin	08	1835EST			0	0			Hail (0.88)
		Nickel size hail reported.							



# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>LOUISIANA, Northeast</u></b>									
<b>Catahoula Parish Harrisonburg</b>	<b>07</b>	<b>0605CST</b>			<b>0</b>	<b>0</b>			<b>Hail (1.75)</b>
<b>East Carroll Parish Lake Providence</b>	<b>07</b>	<b>0715CST</b>			<b>0</b>	<b>0</b>	<b>25K</b>		<b>Thunderstorm Wind</b>
A few buildings were damaged and numerous trees were blown down.									
<b>Catahoula Parish Jonesville</b>	<b>07</b>	<b>1148CST</b>			<b>0</b>	<b>0</b>	<b>100K</b>		<b>Hail (2.75)</b>
Several houses and automobiles were damaged by baseball hail.									
<b>Concordia Parish 5 SW Ferriday to 5 S Ferriday</b>	<b>07</b>	<b>1610CST</b>			<b>0</b>	<b>0</b>			<b>Hail (1.75)</b>
<b>LAZ016</b>	<b>Madison 16</b>	<b>2230CST</b>			<b>0</b>	<b>0</b>	<b>5K</b>		<b>High Wind</b>
Several roofs were damaged and power lines were blown down.									
<b><u>LOUISIANA, Northwest</u></b>									
<b>Union Parish Downsville</b>	<b>05</b>	<b>1930CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
Ground totally covered.									
<b>Union Parish Downsville</b>	<b>05</b>	<b>1930CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Union Parish Downsville</b>	<b>05</b>	<b>1930CST</b>			<b>0</b>	<b>0</b>			<b>Hail (1.75)</b>
<b>Ouachita Parish Calhoun</b>	<b>05</b>	<b>1935CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Union Parish 4 SE Downsville</b>	<b>05</b>	<b>1939CST</b>			<b>0</b>	<b>0</b>			<b>Hail (1.75)</b>
<b>Ouachita Parish 3 NE Calhoun</b>	<b>05</b>	<b>1946CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Lincoln Parish Choudrant</b>	<b>05</b>	<b>1950CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Ouachita Parish West Monroe</b>	<b>05</b>	<b>1956CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Union Parish Downsville</b>	<b>05</b>	<b>1935CST</b>			<b>0</b>	<b>0</b>			<b>Hail (1.75)</b>
<b>Ouachita Parish Calhoun</b>	<b>05</b>	<b>1935CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Union Parish 4 SE Downsville</b>	<b>05</b>	<b>1939CST</b>			<b>0</b>	<b>0</b>			<b>Hail (1.75)</b>
<b>Ouachita Parish 3 NE Calhoun</b>	<b>05</b>	<b>1946CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Lincoln Parish Choudrant</b>	<b>05</b>	<b>1950CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Ouachita Parish West Monroe</b>	<b>05</b>	<b>1956CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Ouachita Parish West Monroe</b>	<b>05</b>	<b>2002CST</b>			<b>0</b>	<b>0</b>			<b>Hail (2.00)</b>
<b>Ouachita Parish 4 SE Calhoun</b>	<b>05</b>	<b>2015CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Natchitoches Parish Provencal</b>	<b>06</b>	<b>1850CST</b>			<b>0</b>	<b>0</b>			<b>Hail (1.00)</b>
<b>Ouachita Parish 5 SE Monroe</b>	<b>07</b>	<b>0115CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>La Salle Parish Rogers</b>	<b>07</b>	<b>0535CST</b>			<b>0</b>	<b>0</b>			<b>Hail (2.75)</b>
Hail measured 7.75 inches by 9 inches measured with a cloth tape in circumference. This would make the hailstone slightly larger than baseball size.									

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>LOUISIANA, Northwest</u></b>									
<b>La Salle Parish</b> Nebo	07	0540CST			0	0			Hail (2.75)
<b>La Salle Parish</b> 1 E Jena	07	0550CST			0	0			Hail (2.75)
<b>La Salle Parish</b> Olla	07	0715CST			0	0			Hail (0.75)
<b>Sabine Parish</b> Negreet	07	0920CST			0	0			Hail (1.00)
<b>De Soto Parish</b> Mansfield	07	0955CST			0	0			Hail (0.75)
<b>Caddo Parish</b> Shreveport	07	1300CST			1	1			<b>Lightning</b> A Ruston, LA woman was killed and her husband seriously injured when lightning struck the couple as they were pulling auto parts from a salvage yard. The woman was killed instantly when lightning hit the umbrella she was holding. F300U
<b>Sabine Parish</b> 5 NE Many	07	1753CST			0	0			Hail (1.75)
<b>Caddo Parish</b> Shreveport	31	0114CST			0	0			Hail (1.00)
<b>Caddo Parish</b> Shreveport	31	0117CST			0	0			Hail (1.00)
<b><u>LOUISIANA, Southeast</u></b>									
<b>St. Charles Parish</b> Des Allemands	06	1300CST			0	0			Hail (1.75) Smaller size hail was reported at other locations around the parish. Half inch hail fell in Luling.
<b>St. Charles Parish</b> Destrehan	06	1315CST			0	0			Hail (0.88)
<b>Terrebonne Parish</b> 4 NNE Houma	06	1513CST			0	0			Hail (0.75) Fire department personnel near Bayou Blue reported large hail. In addition heavy rain of 2.5 inches fell in 1 to 2 hours.
<b>Tangipahoa Parish</b> 4 E Kentwood	07	0445CST			0	0			Hail (1.00)
<b>Iberville Parish</b> Samtown	07	0455CST			0	0			Hail (1.75)
<b>Iberville Parish</b> White Castle	07	0500CST			0	0			Hail (1.75) Golfball size hail fell for 15 minutes damaging 15 vehicles, 2 house roofs and breaking several windows of another house.
<b>Jefferson Parish</b> Gretna	07	0600CST 1200CST			0	0			Urban/Sml Stream Fld Heavy rain of 2 to 4 inches caused flooding that closed several major roadways stopping traffic.
<b>Jefferson Parish</b> Metairie	07	0600CST 1200CST			0	0			Urban/Sml Stream Fld Heavy rain caused several major roadways to flood and stall traffic.
<b>St. Tammany Parish</b> Mandeville	07	0600CST 1200CST			0	0			Urban/Sml Stream Fld Extensive street flooding resulted from heavy rain with water getting into several houses.
<b>Orleans Parish</b> New Orleans	07	0830CST 1100CST			0	0			Urban/Sml Stream Fld Heavy rain produced extensive street flooding.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>LOUISIANA, Southeast</b>									
<b>St. John The Baptist Parish Reserve</b>	07	0830CST 1100CST			0	0			Urban/Sml Stream Fld
									Heavy rain of approximately 5 inches in 90 minutes caused extensive street flooding with water reported in some houses and garages around the parish.
<b>St. Bernard Parish Chalmette</b>	07	1200CST 1800CST			0	0			Urban/Sml Stream Fld
									Heavy rain of 2 to 3.5 inches in 6 hours caused several major roadways to flood stopping traffic.
<b>St. Tammany Parish Countywide</b>	07 08	1700CST 0100CST			0	0			Urban/Sml Stream Fld
									Heavy rainfall of 3 to 5 inches occurred across much of St. Tammany Parish during the day resulting in considerable street flooding in many communities, and caused small streams to go out of their banks. Near the Bogue Falaya River several autos were flooded and the first floor of building near the river was flooded. In Slidell, a few homes had minor flooding. Near Abita Springs, several small streams flooded causing several state highways to close because of flooding.
<b>St. Tammany Parish Lacombe</b>	07	1720CST			0	0			Hail (0.88)
<b>Assumption Parish Napoleonville</b>	07	1810CST			0	0	0.30K		Hail (1.00)
									Quarter size hail broke the windshield of a Louisiana State Highway Patrol car.
<b>St. John The Baptist Parish Reserve</b>	07	1915CST			0	0	100K		Thunderstorm Wind
									Thunderstorm winds estimated at 60 to 65 mph tore roofs off a mobile home, several houses and businesses, toppled trees onto two houses, downed power lines, a traffic signal and six 1000 pound utility poles. Telephone poles were snapped, a party barge was flipped, a church building was pushed about 4 feet.
<b>St. Tammany Parish 10 S Mandeville</b>	07	1945CST 2000CST			0	0			Hail (1.75)
									Golfball sized hail was reported over the middle part of the Lake Pontchartrain Causeway.
<b>LAZ038-040 Tangipahoa - St. Tammany</b>	08 09	0000CST 1800CST			0	0			Flood
									Heavy rain between March 6 and March 8 resulted in considerable runoff and dramatic rise in several rivers. Several gaged river stations along the Tangipahoa, Tchefuncte, and Bogue Falaya Rivers exceeded flood stage by 1 to 3 feet for a short period of time. The main impact was flooding of low lying areas and roadways near the rivers.
<b>East Baton Rouge Parish Baton Rouge</b>	16	2000CST			0	0	0.20K		Thunderstorm Wind
<b>East Feliciana Parish Clinton</b>	16	2100CST			0	0	0.50K		Thunderstorm Wind
<b>St. Helena Parish Greensburg</b>	16	2145CST			0	0	0.50K		Thunderstorm Wind
									Severe thunderstorms downed trees and power lines in several locations across southeast Louisiana. Downed trees temporarily blocked several state highways between the Clinton area and Greensburg. Two trees were blown down in Baton Rouge.
<b>LOUISIANA, Southwest</b>									
<b>Lafayette Parish Lafayette</b>	06	1225CST			0	0			Hail (0.75)
<b>Jefferson Davis Parish Lake Arthur</b>	06	1240CST			0	0			Hail (1.00)
<b>Lafayette Parish Lafayette</b>	06	1245CST			0	0			Hail (0.75)
<b>Vermilion Parish Gueydan</b>	06	1300CST			0	0	500K		Tstm Wind/Hail
									Severe thunderstorm winds damaged between ten and twenty homes in and around Gueydan. Trees were blown down, and hail the

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## LOUISIANA, Southwest

size of baseballs damaged several homes and vehicles. At one house, a 2X4 piece of lumber flew through the air and impacted the roof. Several homes had vinyl siding destroyed by the hail that was blown horizontally by the severe winds. Another home was blown off its pillars by the wind. Several barns and outhouses were damaged or destroyed. The Police Jury barn used to store large machinery was destroyed, strewing metal roofing across the yard.

<b>St. Martin Parish Parks</b>	06	1325CST			0	0			Hail (1.75)
<b>Vermilion Parish 2 W Abbeville</b>	06	1350CST			0	0			Hail (1.75)
<b>Cameron Parish Grand Chenier</b>	07	0330CST			0	0			Hail (1.25)
<b>Vermilion Parish Abbeville</b>	07	0335CST			0	0			Hail (1.00)
<b>Allen Parish Oakdale</b>	07	0425CST			0	0			Hail (1.75)
<b>Vermilion Parish Intracoastal City</b>	07	0445CST			0	0			Hail (1.75)
<b>Acadia Parish Mermantau</b>	07	0500CST			0	0			Hail (0.75)
<b>Rapides Parish Lecompte</b>	07	0510CST			0	0			Hail (2.75)
<b>Iberia Parish 5 W New Iberia</b>	07	0545CST			0	0			Hail (0.75)
<b>Calcasieu Parish Vinton</b>	07	0630CST			0	0			Hail (0.75)
<b>Calcasieu Parish 5 S Sulphur</b>	07	0700CST			0	0			Hail (0.75)
<b>Beauregard Parish 7 NW Dry Creek</b>	07	1350CST			0	0			Hail (0.75)
<b>Allen Parish Grant</b>	07	1400CST			0	0			Hail (0.75)
<b>Beauregard Parish De Ridder</b>	07	1457CST			0	0			Hail (1.50)
<b>Rapides Parish Pineville</b>	07	1500CST			0	0			Hail (0.75)
<b>Vernon Parish 1 S Rosepine</b>	07	1505CST			0	0			Hail (1.25)
<b>Vernon Parish Ft Polk</b>	07	1847CST			0	0			Hail (0.75)
<b>Calcasieu Parish 8 N Sulphur</b>	16	1400CST			0	0	10K		Thunderstorm Wind
Several trees were blown down on Houston River Road.									
<b>Beauregard Parish Ragley</b>	16	1415CST			0	0	5K		Thunderstorm Wind
A few trees and power lines were blown down.									
<b>Acadia Parish Mire</b>	16	1750CST			0	0	200K		Thunderstorm Wind
Severe downburst winds destroyed two mobile homes, severely damaged two other mobile homes and a lounge, and slightly damaged another two mobile homes and two single family structures.									
<b>Iberia Parish New Iberia</b>	16	1840CST			0	0	5K		Lightning
A bolt of lightning came through the chimney and broke through the ceiling. Two people were in the living room watching tv at the time. They thought it looked like a shotgun flash. The lightning burned a large hole in the ceiling and broke some of the molding where it hit. It also tore sheet rock off the wall and shattered a floor tile.									

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>MAINE</b>									
<b>Hancock County</b>									
Countywide	09	2200EST			0	0			Flood
	10	1300EST							
<b>Penobscot County</b>									
Countywide	09	2200EST			0	0			Flood
	10	1300EST							
<b>Piscataquis County</b>									
Countywide	09	2200EST			0	0			Flood
	10	1300EST							
<b>Waldo County</b>									
Countywide	09	2200EST			0	0			Flood
	10	1300EST							
<b>Washington County</b>									
Countywide	09	2200EST			0	0			Flood
	10	1300EST							
	A intense area of low pressure moving northeastward through the St. Lawrence Valley brought heavy rain to much of northern New England. Two to three inches of rain fell over much of eastern Maine. The heavy rains combined with snowmelt to cause the flooding of many streams in southeastern Maine. Streams were reported to have flooded and/or washed out roads in or near Milo, Orono, Kenduskeag, Corinna, Milford, Unity, Bucksport, Orland, Ellsworth, Surry, Deer Isle, and Calais.								
<b>MEZ003&gt;004-007&gt;010-012&gt;016-020&gt;030</b>	<b>Northern Somerset - Northern Piscataquis - Northern Oxford - Northern Franklin - Central Somerset - Southern Piscataquis - Southern Oxford - Southern Franklin - Southern Somerset - Southern Penobscot - Interior Hancock - Androscoggin - Kennebec - Interior Waldo - Coastal York - Coastal Cumberland - Sagadahoc - Lincoln - Knox - Coastal Waldo - Coastal Hancock - Coastal Washington</b>								
	14	1000EST			0	0			Moderate Snowfall
	15	1000EST							
<b>MEZ005&gt;006-011-017&gt;019</b>	<b>Northern Penobscot - Southeast Aroostook - Central Penobscot - Interior Washington - Interior York - Interior Cumberland</b>								
	14	1100EST			0	0			Heavy Snow
	15	0700EST							
	An intense area of low pressure moving eastward from the Great Lakes brought heavy snow to parts of southwestern and eastern Maine. Elsewhere in southern and central Maine, a moderate snowfall occurred. Snowfall amounts ranged from an inch or less in extreme northern Maine to more than 8 inches in parts of eastern Maine. Some locations in eastern Maine reported well over a foot of snow. In southern Maine, snowfall amounts generally ranged from 2 to 8 inches.								
<b>MEZ001&gt;009</b>	<b>Northwest Aroostook - Northeast Aroostook - Northern Somerset - Northern Piscataquis - Northern Penobscot - Southeast Aroostook - Northern Oxford - Northern Franklin - Central Somerset</b>								
	21	1900EST			0	0			Moderate Snowfall
	22	2000EST							
<b>MEZ010&gt;022-029&gt;030</b>	<b>Southern Piscataquis - Central Penobscot - Southern Oxford - Southern Franklin - Southern Somerset - Southern Penobscot - Interior Hancock - Interior Washington - Interior York - Interior Cumberland - Androscoggin - Kennebec - Interior Waldo - Coastal Hancock - Coastal Washington</b>								
	21	2000EST			0	0			Heavy Snow
	22	2000EST							
	Low pressure moving slowly northeastward from the mid-Atlantic Coast brought heavy snow to parts of the state with mixed precipitation along the immediate coast. Snowfall amounts generally ranged from 6 to 10 statewide, but with lesser amounts along the coast. Up to 13 inches of snowfall were reported in parts of Oxford County from the storm.								
<b>MEZ007&gt;030</b>	<b>Northern Oxford - Northern Franklin - Central Somerset - Southern Piscataquis - Central Penobscot - Southern Oxford - Southern Franklin - Southern Somerset - Southern Penobscot - Interior Hancock - Interior Washington - Interior York - Interior Cumberland - Androscoggin - Kennebec - Interior Waldo - Coastal York - Coastal Cumberland - Sagadahoc - Lincoln - Knox - Coastal Waldo - Coastal Hancock - Coastal Washington</b>								
	27	1200EST			0	0			Record Warmth
	31	1900EST							
	A west to southwesterly flow of unseasonably mild air brought record or near-record warmth to central and southern Maine during the last five days of the month. In Portland, four of the last five days were above 70 degrees with daily record high temperatures being set on the 27th (74), 28th (75), and 31st (88). The high temperature of 88 on the 31st set a new record for the month of March and is greater than record temperature for Portland for the month April. A cold front dropping down from the north brought an end to the unseasonable warmth late on the 31st.								

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	

**MAINE**

<b>MEZ014-020&gt;021</b>	<b>Southern Somerset - Androscoggin - Kennebec</b>								
	30	0100EST			0	0			<b>Flood</b>
	31	2359EST							
<b>Franklin County Countywide</b>	31	0200EST			1	0			<b>Flood</b>
		2359EST							
	M39IW								
<b>Oxford County Countywide</b>	31	0200EST			0	0			<b>Flood</b>
		2359EST							
Rapidly melting snow caused by record-breaking warmth combined with rainfall to cause flooding on the Kennebec and Androscoggin Rivers and their tributaries. Many roads were closed due to the flooding. One drowning death occurred in northern Franklin County when a 39-year old man drove his truck onto a flooded Route 27. The Kennebec River at Skowhegan reached flood flow on the 30th and reached flood stage at Augusta on the 31st. The Androscoggin River at Auburn reached flood stage on the 31st. Both rivers continued to rise through the end of the month and crested in April as the flooding continued.									
<b>Franklin County Farmington</b>	30	2015EST			0	0	100K		<b>Lightning</b>
	A large warehouse near Farmington was heavily damaged when it was struck by lightning and caught fire. Lightning also damaged and set fire to power company equipment and caused many homes in and near the Chesterfield/New Sharon area to lose power for the night.								

**MARYLAND, Central**

<b>MDZ004-007</b>	<b>Frederick - Harford</b>								
	03	0200EST			0	0			<b>Snow</b>
		1300EST							
<b>MDZ005&gt;006</b>	<b>Carroll - Northern Baltimore</b>								
	03	0700EST			0	0			<b>Winter Storm</b>
		1300EST							
A strong upper-level disturbance combined with a weak surface trough to produce a small swath of moderate to heavy snow across the northern tier of Maryland during the morning of the 3rd. Accumulations varied with elevation; in general hilly areas (500 feet above mean sea level) received between 4 and 6 inches (MDZ005>006) while lower terrain in the same counties received 1 to 3 inches.									
Isolated areas in Carroll Co (MDZ005) received 7 to 8 inches. Surrounding counties received around 2 inches, though locations along the Catoctin Ridge (separating northwest MDZ004 and northeast MDZ003) received up to eight inches. Effects on residents were limited; school was cancelled for the day in Carroll Co. there were at least 50 minor automobile accidents, but no injuries or fatalities occurred.									
<b>Charles County West Portion</b>	09	0400EST			0	0			<b>Flash Flood</b>
		0900EST							
<b>Anne Arundel County West Portion</b>	09	0500EST			0	0			<b>Flash Flood</b>
		1000EST							
<b>Carroll County Southeast Portion</b>	09	0500EST			0	0			<b>Flash Flood</b>
		1000EST							
<b>Prince George'S County Northwest Portion</b>	09	0500EST			0	0	2K		<b>Flash Flood</b>
		1000EST							
A thin band of showers and thunderstorms with torrential rains moved across the eastern and southern suburbs of Washington, weakening as it moved north into the western suburbs of Baltimore. Observed rainfall of 1 1/2 to 2 inches in two hours, with radar estimates of over 2 1/2 inches, produced flash flooding that brought the Monday morning commute to a standstill over the eastern suburbs.									
Six roads were closed in Charles Co; an additional 5 roads had high standing water covering them. Along the Prince George's/Anne Arundel Co line, a bus overturned on Brock Bridge Road where the Little Patuxent River overspilled its banks. There were no injuries; all passengers, including 23 children, were evacuated. Other incidents included a temporary road closure at the intersection of federal highway 50 and Kenilworth Avenue (Prince George's Co) due to high standing water; in Landover, early morning									

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MARYLAND, Central

commuter and AMTRAK service was delayed due to water rushing across the tracks. Other closures included Tuxedo Road in Cheverly and the intersection of Edmonston and Sunnyside Roads.

In southeastern Carroll Co, the upper Patapsco River overspilled its banks at several rural locations.

**MDZ002>007-  
009>011-013>014-  
016>018**

**Allegany - Washington - Frederick - Carroll - Northern Baltimore - Harford - Montgomery - Howard - Southern Baltimore - Prince Georges - Anne Arundel - Charles - St. Mary'S - Calvert**

<b>11</b>	<b>0700EST</b>	<b>0</b>	<b>0</b>	<b>17.5K</b>	<b>Unseasonably Cold</b>
<b>13</b>	<b>0700EST</b>				

A series of cold fronts ushered in only the second arctic air mass of the winter of 1997/98. The unseasonably cold air, arriving on the heels of a mild and wet February, may have caused some damage to peach crops in Maryland orchards, especially on the coastal plain. The combination of mild and moist conditions earlier in the winter not only led to accelerated bud growth, but may have decreased the resistance of fruit trees to the hard freeze. In addition to the possible peach damage, early blooming plums and some apricots sustained moderate to heavy damage.

The coldest morning, March 13, produced temperatures as low as the low to mid teens across the northern tier of the state. Minimum temperatures on the 11th and 12th averaged in the upper teens to lower 20s; daytime maxima held in the 30s on the 11th and 12th, with some areas (mainly higher terrain over far northern and western sections) failing to rise above freezing for the first time since January 1.

**Frederick County  
Countywide**

<b>20</b>	<b>2200EST</b>	<b>0</b>	<b>0</b>	<b>10K</b>	<b>Flood</b>
<b>21</b>	<b>0900EST</b>				

**Washington County  
East Portion**

<b>20</b>	<b>2200EST</b>	<b>0</b>	<b>0</b>	<b>10K</b>	<b>Flood</b>
<b>21</b>	<b>0900EST</b>				

**Carroll County  
Northwest Portion**

<b>20</b>	<b>2300EST</b>	<b>0</b>	<b>0</b>	<b>2K</b>	<b>Flood</b>
<b>21</b>	<b>1000EST</b>				

An area of deep low pressure over the southeastern U.S. moved slowly into the southern middle Atlantic region in a 24-hour period from the morning of the 20th through the morning of the 21st, then off the coast by evening of the 21st. The low, which entrained deep moisture from the Gulf of Mexico, aided in dumping storm total rainfall of 1 1/2 to 2 inches across the piedmont, with over 2 inches in the higher mountains of the Catoctin Ridge. The rain, falling onto saturated soil in a winter of wet weather, produced areas of small stream and creek flooding - as well as high standing water - which closed over a dozen roads in north central Maryland.

Minor stream and creek flooding occurred in eastern Washington, Frederick, and northwest Carroll Cos. Three state roads were temporarily closed in Frederick Co (rte. 26, 355, and 17). The western portion of the Big Pipe Creek watershed (Carroll Co) flooded, affecting the towns of Detour and Union Bridge, as well as forcing the closure of state route 75. A water rescue was necessary on a flooded creek in Frederick Co. A total of 15 roads closed in Washington Co, including state route 68 south of Hagerstown. Minor flooding was reported in the towns of Williamsport, Funkstown, and Fairplay. Over two dozen basements were flooded in and near Hagerstown; a result of super saturated soils from the abundant winter rainfall.

Nuisance high standing and ponding water was prevalent in the western suburbs of Baltimore and Washington. However, a water rescue (by air boat) was required along state route 28 and Seneca Creek, a well-known flood area in western Montgomery Co. The rescue involved a 45 year-old man whose car was swept 40 to 50 feet downstream early on the 21st.

**MDZ004>006-010**

**Frederick - Carroll - Northern Baltimore - Howard**

<b>22</b>	<b>0000EST</b>	<b>0</b>	<b>0</b>		<b>Snow</b>
	<b>0400EST</b>				

The same area of low pressure which caused flooding and flash flooding in north central Maryland earlier in the day was the culprit for a band of moderate to heavy wet snow, accompanied in some cases by thunder, across north central and northeast Maryland during the late evening and early morning hours of the 21st and 22nd. Two factors, convection and elevation, caused wide-varying accumulations. In general, between 2 and 3 inches fell from extreme northern Anne Arundel (MDZ014) through western Howard, northern Baltimore, Carroll, and Frederick Cos (MDZ010; 004>006). A local total of 4.9 inches fell just south of Manchester (MDZ005), a higher terrain location. An off-duty NWS employee in Odenton (extreme northern Anne Arundel Co) reported 3 inches; a NWS spotter in Ellicott City (Howard Co) recorded 4 1/2 inches.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MARYLAND, Central

**MDZ003>007-009>011-013>014-016>018**      **Washington - Frederick - Carroll - Northern Baltimore - Harford - Montgomery - Howard - Southern Baltimore - Prince Georges - Anne Arundel - Charles - St. Mary'S - Calvert**

	27	1500EST		0	0		10K	Unseasonably Warm
	31	1800EST						

After a winter of cloudy, wet conditions, spring struck back with a vengeance in the form of strong atmospheric high pressure. Underneath the high, very warm and dry weather developed - more like early June than late March. One record high temperature was set at Baltimore Washington International (BWI) airport with 86 degrees. The previous record had been 83, set in 1979. Four long-standing records were shattered in Hagerstown. Notably, the all-time March high temperature (formerly 88 degrees) was broken on March 30th when the mercury topped out at 89. The record had stood since 1907. The dry and breezy conditions aided several small brush fires, including three in eastern Anne Arundel Co (MDZ014) on the 28th through the 30th. One fire consumed 4 acres; the others burned less than 2 acres each.

## MARYLAND, Northeast

### **Caroline County**

	08	1100EST		0	0		Heavy Rain
	09	1000EST					

### **Cecil County**

	08	1100EST		0	0		Heavy Rain
	09	1000EST					

### **Kent County**

	08	1100EST		0	0		Heavy Rain
	09	1000EST					

### **Queen Anne'S County**

	08	1100EST		0	0		Heavy Rain
	09	1000EST					

### **Talbot County**

	08	1100EST		0	0		Heavy Rain
	09	1000EST					

Rain overspread the Maryland Eastern Shore during the late morning on the 8th preceding a low pressure system's warm front. The heaviest rain fell during the afternoon on the 8th with another burst of heavy rain before it ended the morning of the 9th. Storm totals averaged between 1.5 and 2.0 inches. This caused some poor drainage flooding, but was not heavy enough to push any major streams or rivers over bankfull. Storm precipitation totals included 2.00 inches in Salisbury, 1.75 inches in Conowingo, 1.70 inches at the Baltimore International Airport and 1.50 inches in Federalsburg.

**MDZ008-012-015-019>020**      **Cecil - Kent - Queen Annes - Talbot - Caroline**

	27	1000EST		0	0		Unseasonably Warm
	31	1800EST					

An unseasonably warm air mass for late March brought record breaking high temperatures across the Delmarva Peninsula from March 27th through March 31st. The warmest day was the 30th. Several locations across the Middle Atlantic States established new March monthly high temperature records. Across the region, the highest temperatures included 89 degrees at the Baltimore Washington International Airport, 88 degrees at the Patuxent River NAS and 86 degrees in Salisbury. Cloudiness and a cold frontal passage on April 1st slowly brought temperatures back to seasonal levels in early April.

**MDZ008-012-015-019>020**      **Cecil - Kent - Queen Annes - Talbot - Caroline**

	31	2359EST		0	0		Unseasonably Wet
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Continuing a trend that has persisted all year long, March 1998 was unseasonably wet across the Delmarva Peninsula. Monthly precipitation totals on a county weighted average were between 5.2 and 6.3 inches, a departure of about 2.0 to 2.5 inches above normal. Except for Kent County, which was slightly less, all the other counties had between 150 and 175 percent of their normal monthly rainfall.

## MARYLAND, South

NONE REPORTED.

## MARYLAND, West

### **MDZ001**

#### **Garrett**

	10	0500EST		0	0		Winter Storm
	11	1300EST					

Four to six inches of snow fell throughout the county.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of		Estimated		Character of Storm
					Killed	Injured	Property	Crops	

**MARYLAND, West**

Blustery northwest winds brought heavy snow and some blowing and drifting snow to the mountainous areas in western Maryland.

**MASSACHUSETTS, Central and East**

<b>MAZ002&gt;023</b>	<b>Western Franklin - Eastern Franklin - Northern Worcester - Western Middlesex - Western Essex - Eastern Essex - Western Hampshire - Western Hampden - Eastern Hampshire - Eastern Hampden - Southern Worcester - Western Norfolk - Southeast Middlesex - Suffolk - Eastern Norfolk - Northern Bristol - Western Plymouth - Eastern Plymouth - Southern Bristol - Southern Plymouth - Barnstable - Dukes</b>								
	08	1700EST			0	0			Heavy Rain
	09	0000EST							
<b>MAZ002&gt;024</b>	<b>Western Franklin - Eastern Franklin - Northern Worcester - Western Middlesex - Western Essex - Eastern Essex - Western Hampshire - Western Hampden - Eastern Hampshire - Eastern Hampden - Southern Worcester - Western Norfolk - Southeast Middlesex - Suffolk - Eastern Norfolk - Northern Bristol - Western Plymouth - Eastern Plymouth - Southern Bristol - Southern Plymouth - Barnstable - Dukes - Nantucket</b>								
	09	0800EST			0	0			Strong Winds
		2200EST							
<b>MAZ016</b>	<b>Eastern Norfolk</b>								
	09	1401EST			0	0			High Wind (G64)
<b>Worcester County</b>									
<b>Fitchburg</b>	09	1600EST			0	0			Flood
<b>Hampden County</b>									
<b>West Brimfield</b>	09	1900EST			0	0			Flood
<b>MAZ005-005-012</b>	<b>Western Middlesex - Southern Worcester</b>								
	09	2000EST			0	0	300K		Flood
	13	0500EST							
<b>Bristol County</b>									
<b>Norton</b>	10	0100EST			0	0			Flood
<b>Hampshire County</b>									
<b>Gibbs Crossing</b>	10	0500EST			0	0			Flood

A powerful storm system moving very slowly from the Ohio Valley to the eastern Great Lakes caused strong winds and heavy rainfall to Massachusetts, resulting in urban street flooding, basement flooding, small stream flooding, and main stem river flooding. At times, the rainfall was torrential, especially during thunderstorms during the evening on March 9th. Rainfall totals of 2 to 4 inches were the most common, but totals exceeding 4 inches did occur in all areas of the state. Most of the rainfall occurred during a 30-hour period resulting in considerable urban street flooding. Many roads had to be closed for periods ranging from a few hours up to 12 to 24 hours.

Some of the maximum storm total rainfall amounts included: Oxford, 5.44"; Ware, 4.90"; Brimfield, 4.40"; Wales, 4.10"; Worcester Airport, 4.06"; Holland, 4.03"; Onset and West Bridgewater, 4.00"; Wilbraham, 3.80"; Mansfield, 3.74"; and Hampden, 3.70". Record daily rainfalls for March 9th were recorded at Boston and Worcester, with amounts of 2.14" and 3.73", respectively.

Strong south winds gusted to 74 mph atop Blue Hill Observatory in Milton at 2 PM on March 9th and much of the central and eastern part experienced strong south-southeast to south winds with gusts from 40 to 55 mph after the passage of a warm front during the mid to late morning hours. The Blackstone River at Northbridge reached flood stage of 9 feet at 8 PM on March 9th and crested at 10.7 feet at 5 AM on March 10th, then fell below flood stage at 3:30 PM.. Hardest hit towns were the Blackstone Valley communities of Northbridge and Uxbridge. One official termed it "the worst flooding in 20 years." Numerous houses had flooded basements and at least six houses had serious flooding. The Nashua River at East Pepperell reached flood stage of 8 feet at 11 AM on March 10th and crested at 9.7 feet at 11 PM on March 11th, then fell below flood stage at 5 AM on March 13th. The Assabet River at Maynard reached a crest of 5.6 feet at 7 AM on March 11th; flood stage is 5 feet. The Merrimack River at Lowell reached a crest of 51.2 feet at 10 PM on March 11th, just below flood stage of 52 feet.

Several small streams reached flood stage in central and western Massachusetts. The Ware River at Gibbs Crossing in Hampshire County reached flood stage of 7 feet at 5 AM on March 10th. The Quabog River at West Brimfield in Hampden County reached flood stage of 6.5 feet at 7 PM on March 9th. The North Nashua River at Fitchburg reached flood stage of 6.5 feet at 4 PM on March 9th. The Wading River in Norton (Bristol County) reached flood stage of 9 feet at 1 AM on March 10th.

**MAZ005**

**Western Middlesex**

	12	1245EST			2	0			Snow Squall
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A fast moving snow squall suddenly dropped visibility to near zero on Interstate Route 495 in Boxborough and resulted in a pile-up of 30 to 35 vehicles and the deaths of two people. A 45-year-old man and a 3-month-old infant died. Motorists were blinded by the snow. A thin coating of ice which quickly formed on the road surface contributed to the multiple vehicle crashes. The highway was closed for about 3 hours and traffic was stalled for 7 miles. Another similar heavy snow squall occurred in Windham and Derry in southeast New Hampshire, which resulted in multiple crashes on Interstate Route 93 and the closure of that highway. Massive

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>MASSACHUSETTS, Central and East</b>									
			traffic tie-ups affected commuters and motorists from Massachusetts on that interstate highway throughout the afternoon. ??VE, M45VE						
<b>MAZ009</b>	<b>14</b>	<b>0600EST</b> <b>1800EST</b>	<b>Western Hampden</b>		<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
			Snowfall totaled 6.0 inches in Granville. This was an elevation snowfall event, with less snowfall at lower elevations. Numerous, mostly minor, skidding accidents were reported on highways in western Massachusetts.						
<b>MAZ022</b>	<b>18</b> <b>19</b>	<b>1800EST</b> <b>2100EST</b>	<b>Barnstable</b>		<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
			More than 2 inches of rain fell in several towns on Cape Cod. Some storm totals included: South Orleans, 2.50"; Chatham and West Yarmouth, 2.20".						
<b>MAZ005&gt;007-013&gt;024</b>			<b>Western Middlesex - Western Essex - Eastern Essex - Western Norfolk - Southeast Middlesex - Suffolk - Eastern Norfolk - Northern Bristol - Western Plymouth - Eastern Plymouth - Southern Bristol - Southern Plymouth - Barnstable - Dukes - Nantucket</b>						
	<b>21</b> <b>22</b>	<b>0600EST</b> <b>0700EST</b>			<b>0</b>	<b>0</b>			<b>Strong Winds</b>
<b>MAZ016</b>	<b>22</b>	<b>0255EST</b>	<b>Eastern Norfolk</b>		<b>0</b>	<b>0</b>			<b>High Wind (G52)</b>
<b>MAZ008</b>	<b>22</b>	<b>0700EST</b>	<b>Western Hampshire</b>		<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
			A strong very early Spring nor'easter was caused by a low pressure system which moved to the north-northeast from the Virginia coast on March 21st, passing to the southeast of Cape Cod on March 22nd. This storm brought a mixture of snow, sleet, and rain, as well as strong northeast winds. The maximum snowfall reported was 6.1 inches in Worthington in Hampshire County in western Massachusetts. Snowfall totals of 3 to 5 inches occurred elsewhere, except in Plymouth and Bristol Counties, where amounts were on the order of an inch or two. Cape Cod and the Islands had rain. Strong northeast winds gusting to 40 to 55 mph affected east and southeast coastal Massachusetts for about 24 hours from the morning of March 21st through the morning of March 22nd. Some peak wind gusts included: Blue Hill Observatory, Milton, 60 mph; Winthrop, 51 mph; Falmouth, 48 mph; Martha's Vineyard, 46 mph; Chatham and Provincetown, 41 mph; and Nantucket, 39 mph. Offshore, the Buzzards Bay buoy reported a peak wind of 55 mph. Twenty-foot seas were reported offshore and the high seas frustrated efforts by the Coast Guard to tow a disabled fishing vessel off Provincetown. However, all turned out well as the vessel was able to ride out the high seas.						
<b>MAZ005&gt;007-013&gt;024</b>			<b>Western Middlesex - Western Essex - Eastern Essex - Western Norfolk - Southeast Middlesex - Suffolk - Eastern Norfolk - Northern Bristol - Western Plymouth - Eastern Plymouth - Southern Bristol - Southern Plymouth - Barnstable - Dukes - Nantucket</b>						
	<b>26</b>	<b>1000EST</b> <b>1800EST</b>			<b>0</b>	<b>0</b>			<b>Strong Winds</b>
			Strong south-southwest winds gusting to 35 to 50 mph occurred from late morning until late afternoon. Some peak wind gusts included: Blue Hill Observatory, Milton, 50 mph; Boston and Falmouth, 36 mph.						
<b>MAZ015&gt;016</b>	<b>27</b>	<b>1528EST</b> <b>1530EST</b>	<b>Suffolk - Eastern Norfolk</b>		<b>0</b>	<b>0</b>			<b>Record Warmth</b>
<b>MAZ012-015&gt;016</b>	<b>28</b>	<b>1306EST</b> <b>1400EST</b>	<b>Southern Worcester - Suffolk - Eastern Norfolk</b>		<b>0</b>	<b>0</b>			<b>Record Warmth</b>
			Record warmth for the month of March occurred across most of the state. On March 27th, the temperature at Logan International Airport in Boston soared to 79 degrees, breaking the record for the date. The old record was 76 degrees in 1945. At Blue Hill Observatory in Milton on the 27th, the high temperature of 78 degrees surpassed the previous record for the date of 76 degrees in 1945. At Blue Hill Observatory on March 28th, the temperature soared to 86 degrees, establishing a new high temperature record for the month of March. The previous record there was 85 degrees set on March 29, 1945. At Boston on March 28th, the high temperature reached 85 degrees and the old record was 81 degrees in 1989. At Worcester Airport, on March 28th, the high temperature of 81 degrees tied the record high reading for the date.						
<b>MAZ003-010</b>	<b>30</b> <b>31</b>	<b>0700EST</b> <b>2359EST</b>	<b>Eastern Franklin - Eastern Hampshire</b>		<b>0</b>	<b>0</b>			<b>Flood</b>
			Record warm temperatures produced rapid snow melt across northern New England and the combined effects of rapid runoff and dam releases caused the Connecticut River to rise. Flood stage of 112 feet was attained at 7 AM on March 30th in Northampton and flood stage of 28 feet was reached at 10:30 AM at Montague. The river remained above flood stage into the beginning of April.....see April Storm Data for further information. Flood-prone areas outside of levee protection were affected.						

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	

## MASSACHUSETTS, Central and East

**MAZ012-015>016**     **Southern Worcester - Suffolk - Eastern Norfolk**  
**31**     **1342EST**     **0**     **0**     **Record Warmth**  
**1353EST**

On March 31st, the temperature at Logan International Airport in Boston soared to an all-time record for the month of March when a high temperature of 89 degrees was recorded. The previous high reading was 86 degrees on March 29, 1945. At the Worcester Airport, the high temperature of 84 degrees tied the warmest temperature ever recorded in the month of March...again on March 29, 1945. However, the daily high temperature record for March 31st in Worcester was shattered by a wide margin--the previous record was only 70 degrees set on March 31, 1918. At the Blue Hill Observatory in Milton, the high temperature reached 89 degrees, breaking the all-time high temperature record for the month, which had just been set on March 28th of this year at 86 degrees. It also broke the high temperature record for the date of March 31st, which was only 69 degrees recorded in 1986. Also, at many weather stations, the high temperatures on March 31st were the highest readings ever observed so early in the season.

## MASSACHUSETTS, West

**MAZ001**     **Berkshire**  
**14**     **0300EST**     **0**     **0**     **Snow**  
**15**     **0000EST**

During March 14 and 15, an Alberta Clipper produced snow across western Massachusetts. The greatest snowfall occurred in the higher elevations of the Berkshires. Snow totals generally ranged from 2 to 5 inches. The heavy wet snow caused numerous traffic accidents.

**MAZ001**     **Berkshire**  
**21**     **0200EST**     **0**     **0**     **Wintery Mix**  
**22**     **1200EST**

During March 21 and 22, a coastal storm produced a mix of snow, sleet and freezing rain across Berkshire County. Snow totals generally ranged from 3 to 5 inches, with additional accumulation due to sleet and freezing rain.

**MAZ001**     **Berkshire**  
**27**     **1200EST**     **0**     **0**     **Excessive Heat**  
**31**     **1900EST**

The end of March was a period of record heat across western Massachusetts as strong high pressure off the Mid-Atlantic coast produced a persistent southerly flow. From March 27 to March 31, high temperatures ranged from the middle 70s to upper 80s.

## MICHIGAN, East

**MIZ048**     **Bay**  
**09**     **0400EST**     **1**     **0**     **Extreme Cold**

A Kawkawlin man passed out while walking home from a local tavern. A steady, cold rain was falling, and the man died from hypothermia. Alcohol was likely a contributing factor.

M42OU

**MIZ076**     **Wayne**  
**09**     **0600EST**     **0**     **0**     **Flood**  
**1200EST**

**MIZ048**     **Bay**  
**09**     **0900EST**     **0**     **0**     **Heavy Snow**  
**2100EST**

**MIZ054-061**     **Tuscola - Genesee**  
**09**     **1030EST**     **0**     **0**     **High Wind (G50)**  
**1100EST**

A strong low pressure system moved northeast from the southern Plains, reaching the lower Ohio Valley on the evening of the 8th, then crossing Ohio and Lake Erie into Ontario on the 9th. This system brought a multitude of weather events to southeast Michigan.

Over two inches of rain fell on parts of far southeast Michigan on the night of the 8th into the morning of the 9th. Some of the higher rainfall totals were 2.16 inches in Morenci and 2.1 inches in Allen Park. The rain caused some minor urban flooding in Wayne County, where a few streets were flooded. In Allen Park, 14 homes experienced some flooding.

Four to six inches of snow fell in Bay County on the 9th. The highest snowfall total, six inches, was recorded seven miles west of Linwood, near the community of Crump.

Strong north winds occurred during the storm's closest approach on the 9th. A few trees were downed along the Tuscola County shoreline, seven miles northwest of Akron, as these winds came off of Saginaw Bay. Later in the morning, the wind downed power lines in Flint, Burton, Davison, Otisville, and Swartz Creek.

**MIZ070**     **Macomb**  
**09**     **1200EST**     **0**     **0**     **Flood**  
**2100EST**

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	

**MICHIGAN, East**

The Clinton River near Fraser went above its 16 foot flood stage at noon EST on the 9th. The river crested at 16.5 feet at 2 pm EST, then fell below flood stage at 9 pm EST.

**MIZ076**

**Wayne**

**09 1400EST**  
**10 2100EST**

**0 0**

**Flood**

The Lower Rouge River at Inkster went above its 10 foot flood stage at 2 pm EST on the 9th. The river crested at 11.2 feet at 7 am EST on the 10th, then fell back below flood stage at 9 pm EST on the 10th.

**MIZ062**

**Lapeer**

**13 1900EST**  
**14 0300EST**

**0 0**

**Heavy Snow**

A clipper-type low pressure system dropped southeast from western Ontario on the 13th, crossing Lake Superior and moving into northern lower Michigan in the evening. The low then turned east and crossed Lake Huron early on the 14th on its way back into Ontario. This system produced a swath of 3 to 6 inches of snow from the Saginaw Bay area eastward to the Thumb. The heaviest snowfall amount of 6 inches was received in Columbiaville in Lapeer County.

**MIZ053>054**

**Saginaw - Tuscola**

**20 0400EST**  
**22 0900EST**

**0 0**

**Flood**

The Cass River at Frankenmuth went above its 17 foot flood stage at 4 am EST on the 20th. The river crested at 19.6 feet at 9 am EST on the 20th, then fell back below flood stage at 9 am EST on the 22nd.

The Cass River at Vassar went above its 14 foot flood stage at 6 am EST on the 20th. The river crested at 14.3 feet at 7 am EST on the 21st, then fell back below flood stage at 9 am EST on the 21st.

One to two inches of rain fell over the Cass River Basin from the 17th through the 19th. The resultant river flooding was minor, although some flooding of secondary streets and basements near the river occurred.

**MIZ055-063**

**Sanilac - St. Clair**

**20 1900EST**  
**21 0800EST**

**0 0**

**Heavy Snow**

A low pressure area moved east across the Tennessee Valley on the 20th, and proceeded across the southern Appalachians on the 21st. Southeast Michigan was on the northern fringe of the precipitation area from this low. It appears that some lake enhancement took place along the east shore of the Thumb, as this was where the heaviest snowfall occurred. The road commissions of both Sanilac and St. Clair Counties reported accumulations of up to 6 inches. Further south across Metro Detroit, 2 to 5 inch accumulations were common.

**Lenawee County**

2 NW Tipton

28

1058EST

0.5

25

0

0

25K

Tornado (F1)

**Monroe County**

5 SW Milan

28

1110EST

0

0

5K

Thunderstorm Wind (G60)

**Washtenaw County**

Manchester

28

1111EST

0

0

10K

Thunderstorm Wind (G60)

**Washtenaw County**

Ann Arbor

28

1113EST

0

0

Thunderstorm Wind (G50)

**Washtenaw County**

Scio

28

1118EST

0

0

Thunderstorm Wind (G50)

**Washtenaw County**

2 NW Ypsilanti to  
2 NE Ypsilanti

28

1123EST  
1127EST

0

0

30K

Thunderstorm Wind (G60)

**Oakland County**

Milford

28

1130EST

0

0

Thunderstorm Wind (G56)

**Wayne County**

Livonia to  
Redford

28

1140EST  
1142EST

0

0

550K

Thunderstorm Wind (G74)

**Wayne County**

Detroit

28

1145EST  
1200EST

0

0

50K

Thunderstorm Wind (G65)

**Macomb County**

2 S Roseville to  
3 SE Mt Clemens

28

1155EST  
1205EST

0

0

Thunderstorm Wind (G50)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MICHIGAN, East

### **Macomb County Utica**

<b>28</b>	<b>1155EST</b>			<b>0</b>	<b>0</b>				<b>Thunderstorm Wind (G50)</b>
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A line of fast-moving showers with embedded thunderstorms raced across far southeast Michigan during the late morning and early afternoon hours. A brief tornado occurred in northern Lenawee County, destroying a farmhouse and a barn, damaging another barn, and moving two grain silos off of their foundations. The same storm blew down trees in Manchester, and then produced patches of wind damage from just west of Ann Arbor to just north of Ypsilanti. In Ypsilanti Township, a house was deroofed, other roofs were damaged, and many trees were downed, some onto vehicles. A radio tower was damaged in Superior Township, and aluminum roofing was torn from a home.

Additional damage occurred in Wayne County. A furniture warehouse in Livonia was heavily damaged. In adjacent Redford, spotter estimated winds of 85 mph took the roof off of a business and threw parts of it through the window of a business across the street. Substantial tree damage also took place. Another pocket of damage occurred just west of downtown Detroit, near the foot of the Ambassador Bridge. A wall was knocked out at a taxi cab garage, with cinderblocks damaging five cabs. A billboard in the area was damaged. An empty tractor-trailer attempting to cross the Ambassador Bridge into Canada was knocked over very near the international border.

Numerous trees and power lines were downed in eastern Macomb County, from Harrison Township south to Eastpointe. The most concentrated damage was in Roseville. A few trees were also downed in Utica.

### **Saginaw County Fenmore**

<b>30</b>	<b>1240EST</b>			<b>0</b>	<b>0</b>				<b>Hail (0.88)</b>
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A citizen reported nickel-sized hail with a small severe thunderstorm in Fenmore.

## MICHIGAN, Extreme Southwest

NONE REPORTED.

## MICHIGAN, North

### **MIZ016>022-025>028 Emmet - Cheboygan - Presque Isle - Charlevoix - Leelanau - Antrim - Otsego - Benzie - Grand Traverse - Kalkaska - Crawford**

<b>08</b>	<b>1200EST</b>			<b>0</b>	<b>0</b>				<b>Winter Storm</b>
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Low pressure tracking from the Central Plains toward Lake Erie spread heavy snow across portions of Northwest and Northcentral Lower Michigan. Snow began during the morning...becoming heavy at times during the afternoon...before tapering off during the evening. Snowfall totals ranged from 6 to 10 inches across the region.

### **MIZ016>036-041>042 Emmet - Cheboygan - Presque Isle - Charlevoix - Leelanau - Antrim - Otsego - Montmorency - Alpena - Benzie - Grand Traverse - Kalkaska - Crawford - Oscoda - Alcona - Manistee - Wexford - Missaukee - Roscommon - Ogemaw - Iosco - Gladwin - Arenac**

<b>09</b>	<b>0600EST</b>			<b>0</b>	<b>0</b>				<b>Blizzard</b>
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Low pressure tracking through the Eastern Great Lakes region...together with a strong upper low and strong cold front crossing the state brought blizzard conditions to Northern Lower Michigan during the 8th. A mix of sleet...freezing rain and snow quickly changed to all snow in the morning following the passage of the cold front. Snow...heavy at times...then continued into the evening hours. Winds rapidly increased to sustained speeds of 20 to 30 mph behind the front. Sustained winds of 20 to 30 mph...with gusts in excess of 45 mph...then continued into the evening causing widespread blowing and drifting snow. Snowfall totals generally ranged from 8 to 12 inches across the region...with some totals in excess of 12 inches. Snow drifts of 3 to 4 feet closed many roads and the combination of poor visibilities and hazardous road conditions caused many accidents. The combination of heavy wet snow and strong winds also brought down branches and powerlines producing scattered power outages across the region. Nearly 100 school districts in Northern Lower Michigan either cancelled classes or dismissed students early. Many businesses also closed early due to the hazardous conditions.

### **Roscommon County Roscommon**

<b>30</b>	<b>1505EST</b>			<b>0</b>	<b>0</b>				<b>Hail (0.75)</b>
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### **Roscommon County 1 NE Roscommon**

<b>30</b>	<b>2338EST</b>			<b>0</b>	<b>0</b>				<b>Hail (0.75)</b>
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## MICHIGAN, Upper

### **MIZ005>007 Marquette - Alger - Luce**

<b>08</b>	<b>2000EST</b>			<b>0</b>	<b>0</b>				<b>Heavy Snow</b>
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Strong north winds brought cold air across the ice free waters of Lake Superior producing heavy lake effect snow across North Central Upper Michigan. Snow totals between the evening of the 8th and the evening of the 10th included 16.0 inches at Wetmore, 14.6 inches at Munising, 13.1 inches at the Marquette County Airport and 12.0 inches at Newberry.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property Damage	Crops	

## MICHIGAN, Upper

<b>MIZ002-005&gt;006-009&gt;010</b>	<b>Ontonagon - Marquette - Alger - Gogebic - Iron</b>								
	13	1900EST			0	0			<b>Heavy Snow</b>
	14	1600EST							
	Cold air blowing across the relatively warmer waters of Lake Superior brought heavy lake effect snow to scattered locations across West and Central Upper Michigan. Snow totals included Ironwood 16.7 inches, Ramsay 13.5 inches, Paint Lake (25 NW of Iron River) 11.8 inches, Bergland 11.7 inches, Wetmore 11.0 inches, Rockland 9.4 inches, Marquette County Airport 9.4 inches and Silver City 9.0 inches.								
<b>Luce County</b>									
25 NNE Newberry	26	1845EST 1846EST			0	0			<b>Hail (1.00)</b>
<b>Marquette County</b>									
Republic	27	1108EST 1110EST			0	0			<b>Hail (0.75)</b>
<b>Dickinson County</b>									
Norway	29	1735EST 1740EST			0	0			<b>Hail (0.75)</b>
<b>Dickinson County</b>									
Quinnsec	29	1740EST			0	0			<b>Hail (0.75)</b>
<b>Delta County</b>									
Stonington	29	1741EST			0	0			<b>Hail (0.75)</b>
<b>Dickinson County</b>									
Foster City	29	2250EST			0	0			<b>Thunderstorm Wind (G50)</b>
	12 inch diameter tree was uprooted near Foster City.								
<b>Marquette County</b>									
4 NE Watson	29	2300EST 2305EST			0	0			<b>Thunderstorm Wind (G50)</b>
	12 to 15 inch diameter trees uprooted.								
<b>Delta County</b>									
2 NW Rock	29	2330EST			0	0			<b>Funnel Cloud</b>

## MICHIGAN, West

<b>MIZ037&gt;038-043-050</b>	<b>Mason - Lake - Oceana - Muskegon</b>								
	09	0700EST 1900EST			0	0			<b>Blizzard</b>
<b>MIZ039&gt;040-044&gt;046-051&gt;052-056&gt;059-064&gt;067-071&gt;074-077&gt;080</b>	<b>Osceola - Clare - Newaygo - Mecosta - Isabella - Montcalm - Gratiot - Ottawa - Kent - Ionia - Clinton - Allegan - Barry - Eaton - Ingham - Van Buren - Kalamazoo - Calhoun - Jackson - Berrien - Cass - St. Joseph - Branch</b>								
	09	0700EST 1900EST			0	0	100K		<b>Winter Storm</b>

A strengthening low pressure center tracked northeast across the Ohio Valley on Monday, March 9th, and brought heavy snow and blizzard conditions to west central, southwest, central, and most of south central Lower Michigan. Light rain on Sunday, March 8th, changed to a brief period of freezing rain and sleet during the predawn hours on Monday, March 9th in areas north and west of Grand Rapids. This icy mixture changed to snow by 7:00 am EST across most of Mason, Lake, Osceola, Mecosta, Newaygo, Oceana, Muskegon, and Ottawa Counties. Rain changed to freezing rain and sleet in the Grand Rapids metropolitan area, Kalamazoo, Battle Creek, Lansing, Jackson, and surrounding communities between 7:00 am and 9:00 am EST. This icy mix changed to snow during the mid to late morning hours from east to west. However, a prolonged period of sleet across Barry, Branch, Calhoun, Clinton, Eaton, Ingham, Jackson, Kalamazoo, and St. Joseph counties, cut down on snowfall totals in these areas. Snowfall was heavy and was reported at rates around and slightly over 1 inch per hour. Northerly winds increased to sustained speeds of 25 to 35 mph during the morning hours and wind gusts of 45-60 mph were reported along the counties along Lake Michigan shores. One report of a 60-mph wind gust occurred in Ludington around Noon. Widespread blizzard conditions were reported across Mason, Lake, Oceana, and Muskegon Counties. Occasional white-outs were also reported elsewhere across western and central Lower Michigan. Snowfall totals averaged 6 to 12 inches for areas north and west of a line from Cassopolis to Kalamazoo to Lansing. The highest storm total reported was 18 inches in Howard City, in Montcalm County. Snowfall totals of 2 to 5 inches were reported in Kalamazoo, St. Joseph, Calhoun, Branch, Eaton, Ingham, and Jackson counties. Several area cities and counties declared local snow emergencies.

Numerous weather-related traffic accidents were reported, one of which resulted in 2 fatalities in Kent County when a snowmobile collided with a Kent County Road Commission snow plow truck. Downed trees and power lines cut power to some residents, most

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Time Date	Path Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MICHIGAN, West

of which occurred in the counties bordering Lake Michigan. Power outages were reported in Mason (600), Lake, Clare, Oceana, Muskegon (1,900), Montcalm (1,630), Allegan (7,000), and Berrien (12,000) counties. Schools and businesses were closed by this winter storm, the most intense of the 1997-98 winter season. Saturated ground in Jackson from heavy rainfall Sunday night and early Monday morning weakened an old oak tree, which was blown over by winds gusting to 30 mph just before daybreak. This tree crashed through a home in the city of Jackson and caused an estimated \$100,000 in damage. No injuries were reported from residents inside the home.

Beach erosion and coastal flooding affected the Lake Michigan shoreline in Van Buren and Berrien Counties. One home along the lake shore in New Buffalo was undermined and destroyed as high waves on Lake Michigan washed away the dunes. Several other homes were flooded in New Buffalo because of the partial collapse of a sea wall. Storm surge in the St. Joseph River flooded several roads in Benton Harbor. Winds gusted to 50 knots along the lake shore and wave heights reached 10-15 feet at the height of the storm. Numerous power lines were downed near the lake shore in Berrien County. Several shelters were opened Monday night in Berrien County for residents without power and those affected by storm surge flooding.

**MIZ074**

### **Jackson**

<b>09</b>	<b>0800EST</b>	<b>0</b>	<b>0</b>	<b>Flood</b>
	<b>1000EST</b>			

Minor flooding occurred along the Grand River in Jackson during the morning of March 9th. During the previous 24 hours, heavy rains of around an inch and a half occurred in the Jackson area, which resulted in significant runoff from the urban area and rapid rises in river levels. Jackson is located near the headwaters of the Grand River and the heavy rains caused the river to respond quickly and crest just above flood stage at 13.3 feet. The river was only at or above flood stage for 2 hours. Minor flooding occurred, but no property damage was reported.

**MIZ037-043-056-064-071-077>078**

### **Mason - Oceana - Ottawa - Allegan - Van Buren - Berrien - Cass**

<b>10</b>	<b>0100EST</b>	<b>0</b>	<b>0</b>	<b>Lake Effect Snow</b>
<b>11</b>	<b>0700EST</b>			

Northwest winds blowing across Lake Michigan behind an arctic cold front brought lake effect snow showers and squalls inland across portions of the counties bordering the lake in western Lower Michigan and as far inland as Cass County in extreme southwest Lower Michigan. Lake effect snow began around 1:00 am EST Tuesday, March 10th and continued until 7:00 am Wednesday, March 11th. In the counties listed, lake effect snowfall accumulations ranged from 2 to 9 inches. Snowfall was heaviest across northwest Mason, extreme western Allegan, western Van Buren, northern Berrien, and northwest Cass counties. Snowfall accumulations reached 9 inches near Glenn and Ganges (Allegan County) and South Haven (Van Buren County); 6 inches near Saugatuck (Allegan), Coloma and Watervliet (Berrien), and Dowagiac (Cass); and 4 inches in Niles and Benton Harbor (Berrien).

**MIZ037>040-043>046-050>052-056>059-064>067-072>073**

### **Mason - Lake - Osceola - Clare - Oceana - Newaygo - Mecosta - Isabella - Muskegon - Montcalm - Gratiot - Ottawa - Kent - Ionia - Clinton - Allegan - Barry - Eaton - Ingham - Kalamazoo - Calhoun**

<b>13</b>	<b>1500EST</b>	<b>0</b>	<b>0</b>	<b>Heavy Snow</b>
<b>14</b>	<b>0400EST</b>			

A fast-moving Alberta Clipper low pressure system and associated cold front tracked southeast across Michigan's Lower Peninsula during the overnight hours of Friday, March 13th and early Saturday, March 14th. Snow first spread across west central Lower Michigan during mid afternoon Friday, then spread east-southeast across southwest, central, and south central during the early evening hours. Southwest winds blowing across Lake Michigan ahead of the system resulted in lake enhancement across much of west central Lower Michigan, including Ottawa, Muskegon, Oceana, Mason, Lake, Newaygo, Kent, and Osceola Counties. Gustly winds associated with the system, first southwest ahead of the front, then northwest behind it, resulted in blowing and drifting. Wind speeds were sustained at 15 to 25 mph, with gusts to 35 mph. Snowfall rates approached 1 inch per hour with this system and total accumulations ranged from 2.5 to 10 inches in the listed counties. Snow accumulations south of Kalamazoo, Battle Creek, and Lansing were 2 inches or less.

The timing of the onset of heavy snow across the Muskegon - Grand Rapids - Holland metropolitan area coincided with the Friday afternoon rush hour. Numerous weather-related accidents were reported, many of which involved minor injuries. Scattered power outages were reported in Muskegon County, where wind gusts to nearly 40 mph downed some tree limbs and branches on power lines. Up to 650 people were without power for a short time.

Snowfall reports included 10 inches in central Newaygo County; 8 inches in New Era (Oceana County), Fremont (Newaygo), and Cedar Springs (Kent); 6 inches in Irons (Lake), Kent City (Kent), and across much of Osceola, Lake and Muskegon Counties; 5.5 inches in Muskegon; 4.8 inches in Grand Haven; 4.0 inches in Holland and Saugatuck; 3.8 inches in downtown Grand Rapids; and 3.5 inches at the National Weather Service Office in Grand Rapids.

**MIZ067-071>074-077>081**

### **Ingham - Van Buren - Kalamazoo - Calhoun - Jackson - Berrien - Cass - St. Joseph - Branch - Hillsdale**

<b>20</b>	<b>1600EST</b>	<b>0</b>	<b>0</b>	<b>Winter Storm</b>
<b>21</b>	<b>0100EST</b>			

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	

## MICHIGAN, West

A winter storm tracked south of Michigan's Lower Peninsula during the afternoon and evening hours of Friday, March 20th and into the early morning hours of Saturday, March 21st. The low pressure center tracked across Kentucky and into northern Virginia, keeping the most significant precipitation south of the state. A mixture of snow, sleet, and freezing rain fell across much of southwest and south central Lower Michigan, mainly south of a line from South Haven to Lansing, MI. The precipitation started out as a mixture of sleet and freezing rain Friday afternoon, then turned to mostly snow Friday evening. The ice at the onset made travel conditions hazardous for the Friday afternoon rush hour and several minor weather-related accidents were reported along and south of the Interstate-94 corridor. Snow accumulations ranged from 1 to 4 inches in the aforementioned counties. Accumulations of 3 to 4 inches were confined to southern Berrien County, Cass County, Jackson County, and southeast Ingham County.

### **MIZ056>057**

#### **Ottawa - Kent**

**22 1900EST**  
**25 1200EST**

**0 0**

**Flood**

The Grand River in Robinson Township crested at its flood stage of 13.3 feet on March 22nd and held steady at this level through March 25th. No property damage was reported and only minor flooding occurred.

Steady rainfall and warmer temperatures, resulting in a melting of the existing snowpack, during the period of March 18th and March 19th, led to minor flooding along the Grand River in Kent and Ottawa Counties during the period of March 22nd through March 25th. Well below normal temperatures, which returned on March 20th, greatly reduced the runoff due to snowmelt and minimized the flooding. No property damage resulted from this minor flooding episode.

### **Jackson County 5 E Brooklyn**

**28 1100EST**

**0 0**

**5K**

**Thunderstorm Wind**

Jackson County Central Dispatch reported trees and power lines were downed in Norvel Township near the intersection of Michigan Highway 124 and Wellwood Road, approximately 5 miles east of Brooklyn. A large branch from a downed tree broke the front window of a home on Wellwood Road. No injuries were reported. This was the first severe thunderstorm report of the season in south central Lower Michigan.

### **Lake County Baldwin**

**30 1405EST**  
**1410EST**

**0 0**

**Hail (1.00)**

The Lake County Sheriff's Department reported hail fell from 2:05 to 2:10 pm EST, ranging in size from one-half to one inch in diameter.

### **Lake County 3 SW Baldwin**

**30 1500EST**

**0 0**

**Hail (1.75)**

A local television station in Cadillac, MI, relayed a spotter report of 1.75 inch diameter hail approximately 3 miles southwest of Baldwin, in Pleasant Plains Township.

Warm, moist air in place across central and southern Lower Michigan, ahead of a slowly southward moving cold front, set the stage for the first severe thunderstorm event of the spring season across west central and southwest Lower Michigan. Thunderstorms produced small pea to marble-sized hail (1/4-1/2 inch diameter) at several locations from Kent County and the Grand Rapids metropolitan area northward across west central Lower Michigan. Severe criteria hail was reported in Lake County from two separate thunderstorms, both reports coming from the Baldwin area. No injuries or property damage was reported.

## MINNESOTA, Central and South Central

### **Steele County**

**Blooming Prairie**

**27 0235CST**

**0 0**

**Hail (0.75)**

### **Sibley County**

**5 NE Arlington**

**29 1445CST**

**0 0**

**Hail (1.50)**

### **Freeborn County**

**1 W Albert Lea**

**29 1452CST**

**0 0**

**Hail (1.25)**

### **Hennepin County**

**Eden Prairie**

**29 1505CST**

**0 0**

**Hail (1.00)**

### **Freeborn County**

**1 N Hartland**

**29 1510CST**

**0 0**

**Hail (0.88)**

### **Hennepin County**

**Edina**

**29 1515CST**

**0 0**

**Hail (0.88)**

### **Dakota County**

**20 S Burnsville**

**29 1518CST**

**0 0**

**Hail (0.75)**

### **Hennepin County**

**St Anthony**

**29 1520CST**

**0 0**

**Hail (0.75)**

### **Wright County**

**Monticello**

**29 1525CST**

**0 0**

**Hail (0.75)**

### **Faribault County**

**2 N Bricelyn**

**29 1530CST**

**0 0**

**Hail (1.75)**

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>MINNESOTA, Central and South Central</b>									
<b>Steele County</b>									
10 S Owatonna	29	1530CST			0	0			Hail (1.00)
<b>Freeborn County</b>									
3 NW Albert Lea	29	1535CST			0	0			Hail (1.75)
<b>Washington County</b>									
7 N Stillwater	29	1535CST			0	0			Hail (1.75)
<b>Anoka County</b>									
Fridley	29	1623CST			0	0			Hail (1.25)
<b>Watonwan County</b>									
3 NNW Darfur to 3.5 NNW Darfur	29	1628CST	0.5	100	0	0			Tornado (F4)
Tornado moving through southern Brown county brushed extreme northwest Watonwan county. See Brown county narrative.									
<b>Brown County</b>									
Comfrey to 3 E Searles	29	1630CST 1705CST	25	2200	1	16	45M		Tornado (F4)
Tornado began 7 miles east of Avoca in Murray county, continued through Cottonwood, Brown, extreme Northwest Watonwan, Northwest Blue Earth, and finally lifted off 4 miles east of Courtland in Nicollet county. Total storm track was 67 miles. The tornado ripped through the village of Comfrey destroying a grain elevator and damaging 75% of the town. Much of downtown Comfrey destroyed including the town hall. School heavily damaged. 100 people made homeless. 50 homes destroyed. 130 farmsteads damaged or destroyed in Brown county. 500 dairy cows killed. One man critically injured in collapse of farmstead northwest of the town of Hanska. He died the next day. 35 buildings destroyed or damaged in far Northwest Blue Earth county. Damage estimate estimated. Property damage to extreme northwest Blue Earth county across Cambria township estimated at 2 million. Property damage to extreme northwest Watonwan county estimated at 245 thousand. M85PH									
<b>Brown County</b>									
7 SW Leavenworth	29	1630CST			0	0			Hail (1.25)
<b>Brown County</b>									
3 E Springfield	29	1630CST			0	0			Hail (1.00)
<b>Blue Earth County</b>									
2 W Cambria to 1 NW Cambria	29	1705CST 1707CST	2	2200	0	0			Tornado (F4)
See Brown county discussion.									
<b>Nicollet County</b>									
Courtland	29	1705CST			0	0			Hail (4.50)
<b>Nicollet County</b>									
1 SE Courtland to 4 E Courtland	29	1707CST 1715CST	4	2200	0	0			Tornado (F4)
See narrative for Brown county.									
<b>Nicollet County</b>									
2 E Nicollet to St Peter	29	1718CST 1735CST	12	2200	1	0	120M		Tornado (F3)
Tornado made a direct hit on the city of St. Peter and Gustavus Adolphus College. All major buildings on campus suffered varying degrees of damage. The spire on Christ Chapel snapped in half. 70% of the windows on campus were broken. 500 homes were destroyed in St. Peter, 1,700 were damaged. Over 1,000 trees uprooted. One person killed just outside St. Peter when the tornado struck a vehicle. St. Peter Catholic Church destroyed. Hospital severely damaged. Roof ripped off library. 25% of books lost. Debris from St. Peter found 50 miles away in southern suburbs of the Twin Cities. 60 rural homes and farms damaged or destroyed from Courtland to St. Peter. Rural damage estimated at 6.5 million. M6VE									
<b>Nicollet County</b>									
7 SW St Peter	29	1731CST			0	0			Hail (1.75)
<b>Le Sueur County</b>									
4 S Ottawa to 5 W Le Center	29	1735CST 1745CST	6	2200	0	0			Tornado (F3)
See narrative for Nicollet county.									
<b>Le Sueur County</b>									
2 N Cleveland to 1 E Montgomery	29	1748CST 1804CST	17	1760	0	2	20M		Tornado (F2)
Tornado tracked through Le Center and adjoining rural areas. Most of the businesses in the southern part of town were damaged. Buildings destroyed at county fairgrounds. 15 mobile homes at a trailer park destroyed, another 26 suffering major damage. Over 100 farm buildings destroyed.									

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MINNESOTA, Central and South Central

<b>Rice County</b> 3 SW Lonsdale	29	1809CST 1813CST	0.1	200	0	0			<b>Tornado (F1)</b>
<b>Rice County</b> Lonsdale to 5 E Lonsdale	29	1816CST 1824CST	5	440	0	0	20M		<b>Tornado (F2)</b>
Four homes and 6 businesses severely damaged. Street department building damaged. 20 farms damaged or destroyed.									
<b>Dakota County</b> 5 W Castle Rock to 2 W Castle Rock	29	1825CST 1833CST	3	440	0	0			<b>Tornado (F2)</b>
<b>Le Sueur County</b> Elysian	29	1830CST			0	0			<b>Hail (1.00)</b>
<b>Dakota County</b> Farmington	29	1838CST			0	0			<b>Hail (1.75)</b>
<b>Dakota County</b> 5.5 SW Hastings to 4.5 SW Hastings	29	1843CST 1848CST	1	100	0	0			<b>Tornado (F0)</b>
<b>Dakota County</b> Inver Grove Heights	29	1843CST			0	0			<b>Hail (2.00)</b>
<b>MN Z041-047&gt;048- 054&gt;056-064</b>		<b>Douglas - Stevens - Pope - Lac Qui Parle - Swift - Chippewa - Yellow Medicine</b>							
	31	1100CST 2200CST			0	0			<b>Heavy Snow</b>
Heavy snow of 6 to 11 inches. Schools closed in the Dawson and Boyd areas. 9 inches reported at Canby and Glenwood.									

## MINNESOTA, Northeast

<b>MN Z012-019&gt;020- 025&gt;026-033&gt;037</b>		<b>Northern Cook / Northern Lake - Central St. Louis - Southern Lake - Northern Cass - Southern Itasca - Southern Cass - Crow Wing - Northern Aitkin - Southern Aitkin - Southern St. Louis / Carlton</b>							
	31	1600CST 2359CST			0	0			<b>Heavy Snow</b>
An early spring storm dropped 6 to 9 inches of wet, heavy snow in a 60 mile wide band from about Pine River to Gunflint Lake, including Duluth and the Iron Range. Strong winds gusting over 50 mph also produced near-blizzard conditions and toppled a few trees that were burdened with the wet, heavy snow. Some of these falling trees, in turn, caused minor structural damage. The storm wound down during the morning hours of April 1. The greatest snowfall was 9.5 inches at Floodwood. Other reports included 8 inches in Babbitt, Cloquet, and Brainerd and around 6 inches at Duluth, Tower, and Gunflint Lake.									

## MINNESOTA, Northwest

<b>MN Z001&gt;005- 007&gt;008-013&gt;015-022- 027</b>		<b>West Polk - Norman - Clay - Kittson - Roseau - West Marshall - East Marshall - Pennington - Red Lake - East Polk - Mahnomen - West Becker</b>							
	13	0900CST 1200CST			0	0	15K		<b>Blizzard</b>
A strong cold front moved south from Canada across eastern North Dakota and northwest Minnesota, creating ground blizzard conditions. The front moved quickly from north to south, driven by a strong pressure gradient, but dropped little snow. Near zero visibilities were created as the wind picked up the top crust of snow. After the initial burst of intense wind, visibilities slowly improved. Hallock reported a gust to 46 mph, Crookston had a gust to 46 mph, and Fergus Falls had a gust to 51 mph. The strong wind damaged a church roof in Moorhead.									
<b>MN Z022&gt;023-027&gt;030</b>		<b>Mahnomen - South Clearwater - West Becker - East Becker - Wilkin - West Otter Tail</b>							
	31	1700CST 2359CST			0	0			<b>Heavy Snow</b>
Bands of heavy snow fell as wrap-around precipitation from a low pressure system tracking toward the Great Lakes. Several bands became nearly stationary, extending from southeast Richland county in North Dakota to southern Clearwater county in Minnesota. Heavy snow fell across this line, with a sharp cutoff to little snow on either side of the line. The snow finally let up around 10 am on April 1st. 10 inches fell near Bass Lake in Mahnomen county, 11 inches fell near Tulaby Lake in Becker county, and 9 inches fell at Waubun in Mahnomen county.									

## MINNESOTA, Southeast

<b>Mower County</b> 3 N Austin	29	1550CST			0	0	12K		<b>Hail (1.00)</b>
<b>Dodge County</b> Hayfield	29	1557CST			0	0			<b>Hail (0.88)</b>

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>MINNESOTA, Southeast</u></b>									
<b>Olmsted County</b> Salem Corners	29	1600CST			0	0			Hail (0.88)
<b>Olmsted County</b> Byron	29	1602CST			0	0			Hail (0.75)
<b>Olmsted County</b> 6 NW Byron	29	1610CST 1615CST			0	0	40K		Hail (2.50)
<b>Dodge County</b> 5 NE Mantorville	29	1612CST			0	0			Hail (0.75)
<b>Olmsted County</b> Rochester	29	1614CST			0	0	20K		Hail (1.00)
<b>Olmsted County</b> Rochester	29	1615CST			0	0	250K		Hail (1.50)
<b>Olmsted County</b> 2 N Rochester	29	1616CST			0	0	50K		Hail (2.00)
<b>Dodge County</b> Mantorville	29	1619CST			0	0	20K		Hail (1.75)
<b>Dodge County</b> 5 NE Mantorville	29	1619CST			0	0			Hail (0.88)
<b>Wabasha County</b> Zumbro Falls	29	1650CST			0	0	50K		Hail (1.75)
<b>Wabasha County</b> Wabasha	29	1705CST			0	0	15K		Hail (0.88)
<b>Wabasha County</b> Lake City	29	1707CST			0	0			Hail (0.75)
<b>Wabasha County</b> 3 W Wabasha to 2 W Wabasha	29	1707CST 1710CST	1.5	50	0	0			Tornado (F0)
Hail the size of dimes to as large as tennis balls was reported by storm spotters and law enforcement officials across parts of southeast Minnesota. The city of Rochester was especially hit hard with significant hail damage to cars and trucks. A tornado touched down briefly near Wabasha as well, but no injuries or damage was reported.									
<b><u>MINNESOTA, Southwest</u></b>									
<b>Rock County</b> Hardwick	29	1500CST			0	0			Hail (1.50)
<b>Pipestone County</b> Edgerton	29	1507CST			0	0			Hail (2.00)
<b>Nobles County</b> 2 N Lismore	29	1523CST 1535CST	0.1	75	0	0	400K		Tornado (F2)
A tornado destroyed buildings...trees in shelter belts...and numerous pieces of farm equipment...and killed two cattle.									
<b>Nobles County</b> 3 E Leota	29	1525CST 1530CST	0.1	50	0	0	10K		Tornado (F0)
A tornado damaged trees and a few buildings.									
<b>Nobles County</b> 2 N Wilmont	29	1528CST 1533CST	0.1	50	0	0	50K		Tornado (F0)
A tornado caused damage to trees and a few buildings.									
<b>Murray County</b> 3 S Chandler	29	1533CST			0	0			Hail (1.00)
<b>Nobles County</b> 1.5 NW St Killian	29	1535CST 1545CST	0.1	75	0	0	200K		Tornado (F2)
A tornado destroyed farm buildings...uprooted numerous trees...and overturned a tractor trailer.									
<b>Nobles County</b> 3 NE St Killian	29	1545CST 1555CST	0.1	50	0	0	100K		Tornado (F1)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MINNESOTA, Southwest

A tornado damaged trees and destroyed old farm buildings.

### **Murray County**

<b>Avoca</b>	29	1545CST			0	0	100K		<b>Hail (3.00)</b>
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Large hail broke many windows, and damaged vehicles, siding, and roofs.

### **Murray County**

7 E Avoca to 9 E Avoca	29	1550CST 1555CST	2.5	900	0	0	50K		<b>Tornado (F1)</b>
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### **Cottonwood County**

5 S Westbrook to 12 N Mountain Lake	29	1555CST 1630CST	39.5	900	0	3	30M		<b>Tornado (F3)</b>
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A strong tornado which began in Murray County tracked across Cottonwood County and then further northeast. The tornado destroyed numerous farms, farm equipment, buildings, trees, power lines and poles, vehicles, and other structures in its path. A vehicle was tossed a hundred yards as it hit the first farm in southwest Cottonwood County. People in the basement of the house on this farm received minor injuries. The tornado also destroyed a church near Jeffers, and destroyed numerous homes in the southern part of Comfrey, a city which is only partly in Cottonwood County.

### **Murray County**

4 SW Fulda	29	1555CST 1602CST	0.1	50	0	0	50K		<b>Tornado (F1)</b>
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A tornado damaged trees and destroyed old farm buildings.

### **MN Z071>072-097>098 Lincoln - Lyon - Pipestone - Rock**

	31	0800CST 2300CST			0	0			<b>Heavy Snow</b>
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Wet snow accumulated 6 to 12 inches.

## MINNESOTA, West

NONE REPORTED.

## MINNESOTA, West Central

### **MN Z039-046**

#### **Traverse - Big Stone**

	31	1500CST 2300CST			0	0			<b>Winter Storm</b>
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Sleet mixed with rain changed over to heavy snow across Big Stone and Traverse counties in the afternoon of the 31st. Heavy snow of 7 to 11 inches combined with strong winds of 20 to 40 mph to generate poor visibilities and treacherous road conditions, making travel almost impossible. Some schools were let out early on the 31st and canceled on April 1st. Also, many activities and sports events were canceled. Some snowfall amounts included, 7 inches at Ortonville, 8 inches at Wheaton, 9 inches at Artichoke Lake, and 11 inches at Browns Valley.

## MISSISSIPPI, Central

### **Copiah County**

Gallman	05	1422CST			0	0	50K		<b>Lightning</b>
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Lightning struck a house and started a fire. The house was burned to the ground.

### **Clarke County**

Elwood	05	1935CST			0	0			<b>Hail (1.00)</b>
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### **Clarke County**

Quitman	05	1941CST			0	0	100K		<b>Hail (1.75)</b>
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Hail damaged roofs of houses and automobiles.

### **Clarke County**

15 E Quitman	05	1959CST			0	0			<b>Hail (1.75)</b>
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### **Jefferson County**

Lorman	05	2240CST			0	0			<b>Hail (1.75)</b>
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### **Jefferson County**

Fayette	05	2310CST			0	0			<b>Hail (0.75)</b>
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### **Winston County**

6 SW Noxapater	06	2250CST			0	0			<b>Hail (0.75)</b>
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### **Oktibbeha County**

4 E Starkville	06	2352CST			0	0			<b>Hail (1.00)</b>
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### **Warren County**

Vicksburg	07	0045CST			0	0			<b>Hail (0.75)</b>
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# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>MISSISSIPPI, Central</b>									
<b>Smith County</b> Mize	07	0445CST			0	0			Hail (0.75)
<b>Lamar County</b> Purvis	07	0455CST			0	0	100K		Hail (1.75)
									Many roofs of houses and automobile were damaged.
<b>Lincoln County</b> Brookhaven	07	0455CST			0	0	250K		Hail (1.75)
									Many automobiles and roofs were damaged.
<b>Lincoln County</b> Brookhaven	07	0455CST			0	0			Hail (0.75)
<b>Forrest County</b> Hattiesburg	07	0501CST			0	0			Hail (1.00)
<b>Forrest County</b> 3 S Petal	07	0515CST			0	0			Hail (1.00)
<b>Simpson County</b> Pinola	07	0530CST			0	0			Hail (1.00)
<b>Lincoln County</b> 3 SW Brookhaven	07	0559CST			0	0			Hail (0.88)
<b>Simpson County</b> Mendenhall	07	0605CST			0	0			Hail (0.88)
<b>Warren County</b> Vicksburg	07	0650CST			0	0			Hail (0.75)
<b>Madison County</b> Madison	07	0700CST			0	0			Hail (0.75)
<b>Issaquena County</b> Fidler	07	0740CST			0	0			Hail (0.75)
<b>Lincoln County</b> 2 N Brookhaven	07	1247CST			0	0			Hail (0.88)
<b>Simpson County</b> D Lo	07	2000CST 2100CST			0	0			Flash Flood
									Several small creeks over spilled their banks.
<b>Smith County</b> 2 W Raleigh	07	2000CST 2100CST			0	0			Flash Flood
									Roads were flooded. Water was knee deep in several places.
<b>Lamar County</b> Purvis	07 08	2005CST 0200CST			0	0			Flood
									Many roads were flooded throughout the county and several creeks were out of their banks.
<b>Covington County</b> Collins	07	2030CST 2130CST			0	0			Flash Flood
									Several roads were flooded.
<b>Jones County</b> Laurel	07	2030CST 2230CST			0	0			Flash Flood
									Many roads and streets were flooded.
<b>Forrest County</b> Hattiesburg	07 08	2100CST 0200CST			0	0	50K		Flood
									Numerous roads were flooded and several creeks spilled out of their banks. Several houses had water in them.
<b>MSZ044&gt;045-047-057</b>									<b>Leake - Neshoba - Warren - Jasper</b>
	16 17	2330CST 2330CST			0	0	95K		High Wind (G40)
									One building was destroyed and several other were damaged. Trees were blwon down throughout the county.
<b>Copiah County</b> Crystal Spgs	19	1700CST			0	0			Hail (1.00)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>MISSISSIPPI, Central</u></b>									
<b>Lincoln County</b> 7 S Brookhaven	19	1753CST			0	0			Hail (0.88)
<b>Lincoln County</b> 3 SE Brookhaven	19	1800CST			0	0			Hail (0.75)
<b>Webster County</b> 4 N Eupora	19	1809CST			0	0			Hail (1.00)
<b>Oktibbeha County</b> 10 S Starkville	19	1943CST			0	0			Hail (0.75)
<b>Kemper County</b> 2 S Preston	19	2025CST			0	0			Hail (0.88)
<b>Noxubee County</b> Macon	19	2045CST			0	0			Hail (0.75)
<b>Scott County</b> 4 S Morton	31	1325CST			0	0	2K		Thunderstorm Wind
		Several trees were blown down.							
<b>Smith County</b> Burns	31	1335CST			0	0	3K		Thunderstorm Wind
		Trees and power lines were blown down.							
<b>Newton County</b> 5 NE Newton	31	1415CST			0	0	3K		Thunderstorm Wind
		Several trees and power lines were blown down.							
<b>Newton County</b> Decatur	31	1455CST			0	0	3K		Thunderstorm Wind
		Several trees and power line were blown down.							
<b>Jones County</b> Laurel	31	1835CST			0	0			Hail (1.00)
<b><u>MISSISSIPPI, North</u></b>									
<b>Union County</b> 5 SE Keownville	05 06	2255CST 2300CST			0	0	0.05K		Hail (0.88)
<b>Lee County</b> Baldwyn	05 06	2312CST 2317CST			0	0	0.10K		Hail (1.00)
<b>Chickasaw County</b> Woodland	05 06	2320CST 2325CST			0	0	0.50K		Hail (1.50)
		In some areas, the hail reached a depth of 2 to 3 inches on the ground.							
<b>Itawamba County</b> Fulton	05 06	2320CST 2325CST			0	0	0.01K		Hail (0.75)
		Dime size hail covered the ground.							
<b>Itawamba County</b> Fulton	05 06	2344CST 2349CST			0	0	0.10K		Hail (1.00)
<b>Itawamba County</b> Mantachie	05 06	2344CST 2349CST			0	0	1K		Thunderstorm Wind
		Several trees were blown down.							
<b>Lowndes County</b> (Cbm)Columbus Afb	06	0025CST 0030CST			0	0	0.11K		Hail (1.00)
		Hail ranged in size from dime to quarter.							
<b>Chickasaw County</b> 1 W Okolona	06	0115CST 0120CST			0	0	0.10K		Hail (1.00)
<b>Lowndes County</b> 4 W Columbus	07	0000CST 0005CST			0	0	0.01K		Hail (0.75)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>MISSISSIPPI, North</b>									
<b>Yalobusha County</b> Water Vly	17	0130CST 0135CST			0	0	5K		Thunderstorm Wind
									A large greenhouse was blown down. Several trees were also knocked down.
<b>Lafayette County</b> Countywide	17	0200CST 0215CST			0	0	10K		Thunderstorm Wind
									Many trees and power lines were knocked down throughout the county.
<b>Chickasaw County</b> Houston	19	1825CST 1830CST			0	0	0.75K		Hail (1.75)
<b>Lowndes County</b> 2 W Columbus	19	2020CST 2025CST			0	0	0.01K		Hail (0.75)
<b>MISSISSIPPI, South</b>									
<b>Jackson County</b> Pascagoula	05	1130CST			0	0			Lightning
									Lightning struck and sheared off a 60 foot utility pole resulting in an extensive power outage, up to 7 hours, in Pascagoula, Ocean Springs and Gautier.
<b>Hancock County</b> Pearlington	06	1405CST			0	0			Hail (1.75)
<b>Pearl River County</b> Poplarville	07	0523CST			0	0	90K		Lightning
									A house fire started by lightning caused extensive damage.
<b>Hancock County</b> 2 N Kiln	07	0545CST			0	0			Hail (1.00)
									Quarter size hail was reported at several locations around the county.
<b>Hancock County</b> Countywide	07 08	1200CST 0100CST			0	0			Flash Flood
<b>Harrison County</b> Countywide	07 08	1200CST 0100CST			0	0			Flash Flood
<b>Jackson County</b> Countywide	07 08	1200CST 0100CST			0	0			Flash Flood
									Heavy rainfall of 4 to 6 inches occurred during the late morning and afternoon of March 7 along the Mississippi Coast. The soil was already saturated from 1.5 to 3 inches of rain that had occurred the previous day, therefore there was extensive runoff. Widespread street flooding was reported in many communities, especially near the coast. Strong southerly winds resulted in above normal tides along the coast which restricted runoff from drainage canals and small streams into the Gulf. A number of houses in each county were flooded with Harrison County reporting 75 to 80 houses flooded along with some residents evacuated.
<b>Hancock County</b> Logtown	07	2100CST			0	0			Hail (1.75)
<b>Hancock County</b> Bay St Louis	07	2125CST			0	0			Hail (1.75)
<b>Harrison County</b> Pass Christian	07	2130CST			0	0			Hail (1.75)
<b>Hancock County</b> Pearlington	07	2130CST			0	0			Hail (1.75)
<b>Harrison County</b> Long Beach	07	2142CST			0	0			Hail (1.75)
<b>MSZ081&gt;082</b>	08 09	Harrison - Jackson 0100CST 1200CST			0	0			Flood
									Heavy rainfall of 5 to 8 inches during the past several days caused several rivers along the Mississippi Coast to exceed flood stage and result in considerable low land flooding. The following rivers reached crest stage on March 8, 1998: Biloxi River at Lyman - 15.4 feet, flood stage 12.0 ft; Tchoutacabouffa River at D'Iberville - 12.0 ft, flood stage 8.0 ft; Wolf River near Gulfport - 10.3 ft, flood stage 8.0 ft.



# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>MISSOURI, East</b>									
<b>Jefferson County Countywide</b>	20	0430CST 1000CST			0	0			Urban/Sml Stream Fld
<b>Warren County Countywide</b>	20	0430CST 1000CST			0	0			Urban/Sml Stream Fld
Overnight rain of 2 to 3 inches produced minor flooding. Low-water crossings became impassable and some small streams rose out of their banks. County roads AK and MM in Franklin County were closed for a while as were a few county roads in Gasconade County. In Jefferson County the Big River rose out of its banks at Byrnesville.									
<b>Boone County Columbia</b>	27	1555CST			0	0			Thunderstorm Wind (G51)
<b>Boone County Columbia</b>	27	1600CST			0	0	2K		Thunderstorm Wind (G51)
Wind gusts around 60 mph from a line of thunderstorms produced scattered damage across the Columbia area. The porch of a mobile home was destroyed and the underskirting of other mobile homes was blown away. A barn just outside of town lost its roof and some trees were downed.									
<b>Osage County Freeburg</b>	27	1601CST			0	0			Thunderstorm Wind (G50)
Wind gusts from a line of thunderstorms blew the camper off a pickup truck. A truck trailer was also damaged.									
<b>Gasconade County Bland</b>	27	1620CST			0	0			Thunderstorm Wind (G50)
Thunderstorm wind gusts downed trees.									
<b>Boone County Centralia</b>	27	1620CST			0	0			Thunderstorm Wind (G50)
Thunderstorm winds downed trees across the area. One tree blocked Route CC on the west side of town.									
<b>Gasconade County Hermann</b>	27	1620CST			0	0			Thunderstorm Wind (G51)
<b>Gasconade County Owensville</b>	27	1620CST			0	0			Thunderstorm Wind (G51)
Wind gusts from a line of thunderstorms caused damage in Hermann and Owensville. The roof of the Knights of Columbus Hall in Hermann was blown off and damaged a nearby house. In Owensville, trees were downed in Luster and Buschmann Parks. The roof of a former garage and service station just south of town along Highway 19 was also blown off.									
<b>Audrain County 15 NW Mexico</b>	27	1625CST			0	0			Thunderstorm Wind (G50)
Trees were blown down along Route 151.									
<b>Monroe County Monroe City</b>	27	1635CST			0	0			Thunderstorm Wind (G51)
Thunderstorm wind gusts destroyed a car wash, damaged a garage and the roofs of several homes. Trees and power lines were also downed. A chain link fence at Lions Park was also damaged.									
<b>Audrain County Farber</b>	27	1640CST			0	0			Thunderstorm Wind (G50)
Thunderstorm wind gusts broke some windows.									
<b>Montgomery County Bellflower</b>	27	1643CST			0	0			Thunderstorm Wind (G51)
Wind gusts from a line of thunderstorms downed trees in the Bellflower area.									
<b>Lewis County Canton</b>	27	1645CST			0	0			Thunderstorm Wind (G50)
Thunderstorm winds gusts broke some windows and downed a few trees in Canton. A few storage sheds west of town were also destroyed.									
<b>Franklin County 12 W Union</b>	27	1650CST			0	0			Thunderstorm Wind (G51)
Wind gusts from a line of thunderstorms downed trees across west Franklin County.									
<b>Warren County Warrenton</b>	27	1650CST			0	0			Thunderstorm Wind (G50)
<b>Warren County Warrenton</b>	27	1658CST			0	0			Thunderstorm Wind (G50)
Thunderstorm wind gusts downed trees across Warrenton.									

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>MISSOURI, East</u></b>									
<b>Pike County</b>									
Bowling Green	27	1705CST			0	0			Thunderstorm Wind (G51)
The roof of a motel was damaged by thunderstorm wind gusts.									
<b>St. Charles County</b>									
Lake St Louis	27	1705CST			0	0			Thunderstorm Wind (G50)
<b>St. Charles County</b>									
O Fallon	27	1720CST			0	0			Thunderstorm Wind (G50)
<b>St. Charles County</b>									
St Charles	27	1725CST			0	0			Thunderstorm Wind (G50)
Thunderstorm wind gusts downed trees mainly across the north half of the county. Signs were blown down along Highway 370 on the north side of St. Charles. Some vehicle windows were also broken by flying debris.									
<b>Lincoln County</b>									
Troy	27	1723CST			0	0			Thunderstorm Wind (G52)
Thunderstorm wind gusts downed some power poles and lines.									
<b>St. Louis County</b>									
Chesterfield	27	1725CST			0	0			Thunderstorm Wind (G51)
The roof of an industrial building near Spirit of St. Louis Airport was blown off. Trees were also downed along Interstate 64 Near the Boone Bridge.									
<b>Jefferson County</b>									
Hillsboro	27	1725CST			0	0			Thunderstorm Wind (G50)
Thunderstorm wind gusts downed some trees near Hillsboro.									
<b>Scotland County</b>									
Memphis	30	1842CST			0	0			Hail (0.75)
<b>Monroe County</b>									
Paris	30	2135CST			0	0			Hail (0.75)
<b>Boone County</b>									
Hallsville	31	1330CST			0	0			Thunderstorm Wind (G50)
A few trees and power lines were downed near Hallsville.									

## **MISSOURI, Lower**

NONE REPORTED.

## **MISSOURI, Northwest**

**MOZ031>032-  
039>040-044-046-054** **Carroll - Chariton - Saline - Howard - Johnson - Cooper - Henry**

<b>08</b>	<b>0000CST</b>	<b>0</b>	<b>0</b>	<b>Flood</b>
<b>13</b>	<b>2359CST</b>			

Heavy rain and snow on March 8th resulted in minor to moderate river flooding.

South Grand River  
Urich, MO

Flood Stage	24 ft
Above Flood Stage	3/8 to 3/12
Crest	26.7 ft on 3/8

Big Creek  
Blairstown, MO

Flood Stage	20 ft
Above Flood Stage	3/8 to 3/9
Crest	23.2 ft on 3/8

Wakenda Creek  
Carrollton, MO

Flood Stage	20 ft
Above Flood Stage	3/8 to 3/9
Crest	21.9 ft on 3/9

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons	Killed	Injured	Estimated Damage	Property	Crops	Character of Storm
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## MISSOURI, Northwest

Grand River  
Sumner, MO

Flood Stage	26 ft
Above Flood Stage	3/8 to 3/10
Crest	30.95 ft on 3/9

Brunswick, MO

Flood Stage	19 ft
Above Flood Stage	3/9
Crest	Estimated 19.0 ft

Petite Saline Creek  
Boonville, MO

Flood Stage	16 ft
Above Flood Stage	3/8 to 3/9
Crest	18.81 ft on 3/8

Blackwater River  
Valley City, MO

Flood Stage	22 ft
Above Flood Stage	3/9
Crest	Estimated 27.3 ft

Blue Lick, MO

Flood Stage	24 ft
Above Flood Stage	3/8 to 3/13
Crest	30.23 ft on 3/11

Lamine River  
Otterville, MO

Flood Stage	15 ft
Above Flood Stage	3/8 to 3/9
Crest	18.32 ft on 3/9

Moniteau Creek  
Fayette, MO

Flood Stage	16 ft
Above Flood Stage	3/8 to 3/9
Crest	16.2 on 3/8

**MOZ023-032-044-046-054 Livingston - Chariton - Johnson - Cooper - Henry**

15	0000CST	0	0	Flood
23	2359CST			

Minor to moderate river flooding occurred during the middle of March.

South Grand River  
Urich, MO

Flood Stage	24 ft
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# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MISSOURI, Northwest

Crest 14.8 ft on 3/30

Petite Saline Creek  
Boonville, MO

Flood Stage 16 ft  
Above Flood Stage 3/31  
Crest 20.57 ft

Blackwater River  
Valley City, MO

Flood Stage 22 ft  
Above Flood Stage 3/31  
Crest Estimated 27.0 ft

Blue Lick, MO

Flood Stage 24 ft  
Above Flood Stage 3/31  
Crest 29.98 ft

Lamine River  
Otterville, MO

Flood Stage 15 ft  
Above Flood Stage 3/31  
Crest 18.56 ft

Moniteu Creek  
Fayette, MO

Flood Stage 16 ft  
Above Flood Stage 3/31  
Crest 20.5 ft

Chariton River  
Prairie Hill, MO

Flood Stage 15 ft  
Above Flood Stage 3/31  
Crest 16.79 ft

Missouri River  
St. Joseph, MO

Flood Stage 17 ft  
Above Flood Stage 3/30 to 3/31  
Crest 20.2 ft on 3/31

Atchison, MO

Flood Stage 22 ft  
Above Flood Stage 3/30 to 3/31  
Crest 22.6 ft on 3/31

Sibley, MO

Flood Stage 22 ft  
Above Flood Stage 3/31

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MISSOURI, Northwest

Crest			24.8 ft	
Napoleon, MO				
Flood Stage			17.0 ft	
Above Flood Stage			3/31	
Crest			19.87 ft	
Waverly, MO				
Flood Stage			20 ft	
Above Flood Stage			3/31	
Crest			23.52 ft	
Miami, MO				
Flood Stage			18 ft	
Above Flood Stage			3/31	
Crest			NA	
Glasgow, MO				
Flood Stage			25 ft	
Above Flood Stage			3/31	
Crest			28.2 ft	
Boonville, MO				
Flood Stage			21 ft	
Above Flood Stage			3/31	
Crest			26.76 ft	

### **Nodaway County**

<b>Maryville</b>	<b>30</b>	<b>1140CST</b>							
			<b>0</b>	<b>0</b>					<b>Hail (0.75)</b>

A severe weather spotter reported dime-size hail during a severe thunderstorm in Maryville.

### **Platte County**

<b>Platte City</b>	<b>30</b>	<b>1440CST</b>							
			<b>0</b>	<b>0</b>					<b>Hail (1.75)</b>

The Platte County Sheriff's office reported golfball-size hail during a severe thunderstorm in Platte City.

### **Cooper County**

<b>Boonville</b>	<b>31</b>	<b>1243CST</b> <b>1245CST</b>							
			<b>0</b>	<b>0</b>					<b>Thunderstorm Wind (G64)</b>

The Cooper County Sheriff's office reported a wind gust to 64 MPH in Boonville. On the west side of Boonville, a tree 14 inches in diameter was blown down resulting in a blocked roadway.

## MISSOURI, Southeast

### **Butler County**

<b>Poplar Bluff</b>	<b>17</b>	<b>1835CST</b> <b>2000CST</b>							
			<b>0</b>	<b>0</b>		<b>5K</b>			<b>Urban/Sml Stream Fld</b>

Heavy rains over a 3 to 4 hour period produced over 2 inches of rain. Highway PP near Poplar Bluff was closed by flooding.

### **Bollinger County**

<b>Zalma</b>	<b>17</b>	<b>1835CST</b> <b>2000CST</b>							
			<b>0</b>	<b>0</b>					<b>Urban/Sml Stream Fld</b>

Heavy rains over a 3 to 4 hour period produced 2 inches of rain on average. Some county roads were blocked by water.

### **MOZ087**

<b>Cape Girardeau</b>									
	<b>20</b>	<b>0700CST</b>							
	<b>30</b>	<b>0700CST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>

The Mississippi River crested at 36.4 feet at Cape Girardeau, where flood stage is 32 feet. This resulted in minor flooding of agricultural bottomlands and river access roads.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>MISSOURI, Southeast</b>									
<b>MOZ100</b>		<b>Wayne</b>							
	<b>20</b>	<b>1200CST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>21</b>	<b>0900CST</b>							
	The St. Francis River crested at 17.8 feet at Patterson, which is above the 16-foot flood stage. This resulted in minor flooding.								
<b>MOZ076</b>		<b>Perry</b>							
	<b>26</b>	<b>1000CST</b>			<b>0</b>	<b>0</b>	<b>5K</b>		<b>High Wind (G50)</b>
		<b>1500CST</b>							
	Strong south winds averaged 20 to 30 MPH with higher gusts. Gusts were estimated near 58 MPH north of Cape Girardeau in Perry County, where shingles were blown off the courthouse. The strong winds were caused by the interaction of low pressure over the Plains with high pressure over the Atlantic coast.								
<b>Stoddard County</b>									
<b>3 S Asherville</b>	<b>27</b>	<b>1933CST</b>			<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G56)</b>
	Thunderstorm winds gusted to 65 MPH. The gust was estimated by a trained spotter.								
<b>Cape Girardeau County</b>									
<b>Cape Girardeau</b>	<b>27</b>	<b>2000CST</b>			<b>0</b>	<b>0</b>	<b>3K</b>		<b>Thunderstorm Wind (G50)</b>
	Thunderstorm winds blew down several trees in Cape Girardeau.								
<b>Ripley County</b>									
<b>5 N Doniphan to 2 N Doniphan</b>	<b>27</b>	<b>2017CST</b>			<b>0</b>	<b>0</b>	<b>10K</b>		<b>Hail (2.75)</b>
		<b>2025CST</b>							
	A severe thunderstorm cell over Ripley County produced large hail. Hail the size of baseballs occurred 2 miles north of Doniphan on Highway 21.								
<b>MISSOURI, Southwest</b>									
<b>Ozark County</b>									
<b>Rockbridge</b>	<b>08</b>	<b>0400CST</b>			<b>0</b>	<b>0</b>	<b>0</b>		<b>Flash Flood</b>
		<b>0700CST</b>							
	Between one and two inches of rain fell during the early morning flooding low water crossings along Highway 95, 4 miles south of Highway 14. Flooding was short lived due to recent dry weather.								
<b>Howell County</b>									
<b>Countywide</b>	<b>17</b>	<b>1100CST</b>			<b>0</b>	<b>0</b>	<b>0</b>		<b>Flash Flood</b>
		<b>2200CST</b>							
	One to two inches of rain fell over the county resulting in flooding of numerous low water crossings and county roads. Highway JJ south of West Plains was closed from late morning through the evening.								
<b>Ozark County</b>									
<b>Mammoth</b>	<b>17</b>	<b>1300CST</b>			<b>0</b>	<b>0</b>	<b>0</b>		<b>Flash Flood</b>
		<b>1500CST</b>							
	Heavy rains caused flooding along Highway T near Mammoth.								
<b>Texas County</b>									
<b>Countywide</b>	<b>17</b>	<b>1502CST</b>			<b>0</b>	<b>0</b>	<b>0</b>		<b>Flash Flood</b>
		<b>1700CST</b>							
	One to two inches of rain resulted in flooding of several low water crossings in the county. Most of the flooding was concentrated around the town of Success.								
<b>Miller County</b>									
<b>Countywide</b>	<b>17</b>	<b>1615CST</b>			<b>0</b>	<b>0</b>	<b>0</b>		<b>Flash Flood</b>
		<b>2200CST</b>							
	Over an inch of rain fell during the afternoon causing flooding of several low water crossings. County roads along Highway 17 and Highway 52 north and east of Tuscombina were most impacted. Highway 52, 2 miles east of St. Elizabeth, was closed during the evening.								
<b>Maries County</b>									
<b>3 E Brinktown</b>	<b>17</b>	<b>2045CST</b>			<b>0</b>	<b>0</b>	<b>0</b>		<b>Flash Flood</b>
		<b>2200CST</b>							
	Heavy rain caused flooding along Highway N, at the Maries River.								
<b>Phelps County</b>									
<b>Countywide</b>	<b>17</b>	<b>2050CST</b>			<b>0</b>	<b>0</b>	<b>0</b>		<b>Flash Flood</b>
		<b>2300CST</b>							
	Over an inch of rain resulted in flooding of county roads along creeks to the southwest of Rolla. Mill, Corn, and Little Piney creeks were most affected.								

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>MISSOURI, Southwest</b>									
<b>Pulaski County</b> 2 W Crocker	18	0100CST 0700CST			0	0	0		Flash Flood
			Heavy rain caused flooding along Tavern Creek, closing sections of Highway U.						
<b>Barry County</b> Countywide	19 20	1000CST 1200CST			0	0	0		Flash Flood
			Heavy rain falling on saturated ground resulted in widespread flooding of low water crossings and low lying areas. Route C was closed at Flat Creek near McDowell for more than 24 hours.						
<b>Howell County</b> Countywide	19 20	1000CST 1200CST			0	0	0		Flash Flood
			Heavy rain falling on saturated ground resulted in flooding of numerous roads in the county. Among those reported closed include Highway 142 east and west of Lanton and sections of Highway JJ south of West Plains.						
<b>Ozark County</b> Countywide	19 20	1000CST 1200CST			0	0	0		Flash Flood
			Heavy rain falling on saturated ground resulted in flooding of many low water crossings in the county. Highway T near Mammoth and Highway 95 between Souder and Rockbridge were closed for over 24 hours. Low water crossings in the Gainesville area were impassable.						
<b>Wright County</b> Countywide	19 20	1100CST 1100CST			0	0	0		Flash Flood
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings in the county. Parts of Route E between Rayborn and Norwood near the Gasconade River were closed.						
<b>Douglas County</b> Countywide	19 20	1130CST 1200CST			0	0	0		Flash Flood
			Heavy rain falling on saturated ground resulted in widespread flooding of low water crossings in the county. Parts of Route EE and U northeast of Ava were closed during this period.						
<b>Newton County</b> Countywide	19	1130CST 2300CST			0	0	0		Flash Flood
			Heavy rain falling on saturated ground resulted in flooding of low water crossings along Shoal Creek between Neosho and Joplin. Street flooding was also reported in Granby.						
<b>Polk County</b> Countywide	19 20	1130CST 1000CST			0	0	0		Flash Flood
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings in the county.						
<b>McDonald County</b> Countywide	19 20	1245CST 0800CST			0	0	0		Flash Flood
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings in the county. Flooding closed the bridge along the Elk River in the town of Ginger Blue, just south of Lanagan.						
<b>Stone County</b> Countywide	19	1320CST 2300CST			0	0	0		Flash Flood
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings, especially between Galena and Crane.						
<b>Jasper County</b> Countywide	19 20	1330CST 1000CST			0	0	0		Flash Flood
			Heavy rain falling on saturated ground resulted in flooding of numerous roads along Center Creek between Carthage and Joplin. Several roads were also flooded in the city of Joplin.						
<b>Lawrence County</b> Countywide	19	1330CST 2100CST			0	0	0		Flash Flood
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings in the county. Some Farm Roads in the Aurora and Verona area were closed.						

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>MISSOURI, Southwest</b>									
<b>Christian County</b> Countywide	19	1400CST 2200CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground caused flooding of numerous creeks and low water crossings in the county. Tracker Road just west of Highway 160 in Nixa was closed during the afternoon and evening.						
<b>Greene County</b> Countywide	19 20	1400CST 1400CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings and creeks. Numerous Farm Roads along the James River were closed and a section of Highway O along the Sac River between Willard and Glidewell was closed. Flooding also occurred on some Springfield city streets.						
<b>Laclede County</b> Countywide	19	1430CST 2300CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings. Highways reported closed during this period include Highway B between Lebanon and Competition, Highway HH at the Orla Bridge along the Osage Fork River, and Highway FF near Richland.						
<b>Dallas County</b> Countywide	19	1500CST 2200CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground caused flooding of numerous low water crossings in the county. Highway P, 5 miles north of Long Lane, was closed during the afternoon and evening.						
<b>Pulaski County</b> Countywide	19 20	1500CST 1500CST			0	0	0		<b>Flash Flood</b>
			Heavy rain resulted in flooding of numerous low water crossings in the county. Highway 133 near Richland was closed.						
<b>Taney County</b> Countywide	19	1500CST 2300CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground caused flooding of numerous low water crossings in the county.						
<b>Texas County</b> Countywide	19 20	1500CST 1000CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings in the county. Route U was closed east of Cabool.						
<b>Webster County</b> Countywide	19 20	1500CST 1000CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings in the county. Highway Y was closed along the Niangua River in the St. Luke area. Low water crossings were also closed along the Pomme De Terre River.						
<b>Shannon County</b> 5 NE Winona	19	1545CST 1730CST			0	0	0		<b>Flash Flood</b>
			Heavy rain caused flooding of Highway H along Rocky Creek.						
<b>Oregon County</b> Countywide	19	1650CST 2300CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings in the county. County roads along the Eleven Point River were closed in the Riverton area.						
<b>Dent County</b> Countywide	19 20	1700CST 1400CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground resulted in widespread flooding of low water crossings and creeks in the county. Flooding forced the evacuation of the Montauk State Park campground around 1830 CST 3/19/98. Parts of Route T in the Sligo area and Route EE east of Salem were closed during this period.						
<b>Hickory County</b> Countywide	19	1700CST 2200CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground resulted in flooding of low water crossings in the county. Highway D between Preston and Nemo and Highway P east of Cross Timbers were among roads that were closed during this period.						

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>MISSOURI, Southwest</b>									
<b>Maries County</b> Countywide	19	1700CST 2300CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground caused flooding along Highway N at the Maries River, 3 miles east of Brinktown.						
<b>Miller County</b> Countywide	19 20	1700CST 1400CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings in the county. Highway 52, 2 miles east of St. Elizabeth, was closed for nearly 24 hours.						
<b>Phelps County</b> Countywide	19 20	1700CST 1000CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings in the county. Highway Y, 5 miles north of Rolla, and Highway T, just north of Flat, were closed. Parts of Route C between Newburg and the Gasconade River were also closed.						
<b>Benton County</b> Countywide	19	1800CST 2350CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground resulted in widespread flooding of low water crossings throughout the county.						
<b>Morgan County</b> Countywide	19	1800CST 2300CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground resulted in flooding along Highway 135 in the Florence and Pymont area.						
<b>Camden County</b> Countywide	20	0030CST 1400CST			0	0	0		<b>Flash Flood</b>
			Heavy rain falling on saturated ground resulted in flooding of numerous low water crossings in the county. Route U along the Niangua River, 3 miles west of Camdenton, was closed during the morning and early afternoon.						
<b>MOZ070</b>		<b>Pulaski</b>							
	26	1130CST 1200CST			0	0	2K		<b>High Wind</b>
			Wind gusts to 50 mph ahead of a low pressure system in the central Plains blew tiles off a roof of a business in Richland.						
<b>MOZ088</b>		<b>Jasper</b>							
	27	1000CST			0	0	2K		<b>High Wind</b>
			South winds ahead of a low pressure system gusted to 50 mph downing power lines and knocking over small trees in the city of Joplin.						
<b>Greene County</b> Springfield	27	1402CST			0	0	0		<b>Thunderstorm Wind (G60)</b>
<b>Greene County</b> Walnut Grove	27	1403CST			0	0	1K		<b>Thunderstorm Wind</b>
			Thunderstorm winds downed several trees.						
<b>Christian County</b> Spokane	27	1412CST			0	0	1K		<b>Thunderstorm Wind</b>
			Thunderstorm winds downed power lines.						
<b>Taney County</b> Hollister to 5 S Forsyth	27	1419CST 1425CST			0	0	90K		<b>Thunderstorm Wind (G61)</b>
			A wind gust of 61 knots was reported by spotters in Hollister at 1419 CST. Numerous trees were reported down in Hollister are a along Highway 76 and K Highway. At approximately 1425 CST, thunderstorm downburst winds hit the K-Boat Dock, located along Bull Shoals Lake 5 miles south of Forsyth. Thunderstorm winds damaged several boats and broke part of the boat dock off from the main dock.						
<b>Dallas County</b> 8 N Buffalo	27	1435CST			0	0	0		<b>Thunderstorm Wind (G55)</b>
			Reported at the junction of Highways 73 and 64.						

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<b>MISSOURI, Southwest</b>									
<b>Webster County</b> 6 SE Fordland	27	1440CST			0	0	0		Thunderstorm Wind (G63)
									Nickel hail was also reported.
<b>Laclede County</b> 2 W Lebanon	27	1450CST			0	0	0		Thunderstorm Wind (G52)
									Reported near the junction of Highways AA and 64.
<b>Ozark County</b> Thornfield	27	1459CST			0	0	0		Thunderstorm Wind
									Large tree was down along Highway D near Thornfield.
<b>Douglas County</b> Ava	27	1510CST			0	0	1K		Thunderstorm Wind
									Thunderstorm winds downed large trees.
<b>Pulaski County</b> 4 SW Buckhorn	27	1510CST			0	0	2K		Thunderstorm Wind
									Thunderstorm winds downed power lines along AB Highway.
<b>Laclede County</b> Lebanon	27	1514CST			0	0	2K		Thunderstorm Wind
									Thunderstorm wind downed trees in Lebanon and surrounding communities.
<b>Camden County</b> 2 SW Osage Beach	27	1515CST			0	0	0		Thunderstorm Wind
									Thunderstorm winds downed large tree limbs and blew small signs down.
<b>Wright County</b> 8 NE Hartville	27	1530CST			0	0	2K		Thunderstorm Wind
									Thunderstorm winds blew some roofing off a home.
<b>Texas County</b> 3 SE Roby	27	1540CST			0	0	0		Thunderstorm Wind (G52)
<b>Maries County</b> Vichy	27	1613CST			0	1	30K		Thunderstorm Wind
									Thunderstorms winds blew over a mobile home along County Road 452 near Vichy. A teenage girl inside suffered minor injuries. VIH ASOS site nearby reported a wind gust to 68 knots at 1609 CST.
<b>Dent County</b> 5 N Salem	27	1615CST			0	0	0		Thunderstorm Wind
									Thunderstorm winds downed several trees.
<b>Phelps County</b> Countywide	27	1615CST			0	0	3K		Thunderstorm Wind
									Thunderstorm winds downed trees, power lines, and signs all over the county. Two cars were shoved into the median along Interstate 44 near Rolla because of high winds.
<b>Newton County</b> Diamond	30	2030CST			0	0	0		Thunderstorm Wind
									Thunderstorm winds downed several trees.
<b>MONTANA, Central</b>									
<b>MTZ009-012-014&gt;015</b>	<b>Rocky Mountain Front - Cascade / Eastern Teton - Broadwater / Jefferson / Meagher / Central And Southern Lewis And Clark - Gallatin / Madison</b>								
	04	0200MST			0	0			Heavy Snow
		2200MST							up to 9 inches of snow
<b>MTZ010</b>	<b>Eastern Glacier / Eastern Pondera / Toole / Liberty</b>								
	10	0000MST			0	0			Heavy Snow
		1800MST							
<b>MTZ009&gt;010-015</b>	<b>Rocky Mountain Front - Eastern Glacier / Eastern Pondera / Toole / Liberty - Gallatin / Madison</b>								
	17	0000MST			0	0			Heavy Snow
		1800MST							
<b>MTZ013&gt;015</b>	<b>Fergus / Judith Basin - Broadwater / Jefferson / Meagher / Central And Southern Lewis And Clark - Gallatin / Madison</b>								
	28	0000MST			0	0			Heavy Snow
		1800MST							up to 11 inches of snow.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>MONTANA, East</u></b>									
<b>MTZ016&gt;017- 021&gt;023-025&gt;027</b>	<b>Phillips - Valley - Petroleum - Garfield - McCone - Dawson - Prairie - Wibaux</b>								
	<b>09</b>	<b>0200MST</b>			<b>0</b>	<b>0</b>			<b>Winter Storm</b>
	<b>10</b>	<b>1000MST</b>							
<b>MTZ017&gt;020-024</b>	<b>Valley - Daniels - Sheridan - Roosevelt - Richland</b>								
	<b>23</b>	<b>0100MST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
		<b>0930MST</b>							
<b><u>MONTANA, South</u></b>									
<b>MTZ028-034&gt;035</b>	<b>Wheatland - Stillwater - Yellowstone</b>								
	<b>03</b>	<b>1700MST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>04</b>	<b>1700MST</b>							
	A strong low pressure area moved out of southern Idaho and into southwestern Montana and western Wyoming on the afternoon of March 3. As this system tracked slowly across Wyoming overnight some heavy snow fell over parts of South Central Montana. The following are snow depth totals from the storm. In Yellowstone County...Billings 7 inches at the airport and 10 inches downtown. Lockwood 12 inches. Laurel 8 inches. In Big Horn County...Hardin 8 inches. In Carbon County...Red Lodge 5 inches. In Stillwater County...Columbus 4 inches. In Sweet Grass County...Big Timber 4 inches. In Wheatland County...Shawmut 5 inches.								
<b>MTZ028&gt;037</b>	<b>Wheatland - Musselshell - Treasure - Rosebud - Custer - Fallon - Stillwater - Yellowstone - Powder River - Carter</b>								
	<b>28</b>	<b>1000MST</b>			<b>0</b>	<b>1</b>			<b>Heavy Snow</b>
	<b>29</b>	<b>1900MST</b>							
	An early season spring storm dumped heavy snow across much of South Central and southeastern Montana from the morning of March 28 to the evening of March 29. The hardest hit area was the foothills of the Beartooth Mountains. A spotter from Roberts in Carbon County reported 24 inches of snow and there were several reports of 5 to 12 inches. Billings received 5 inches from this storm and Red Lodge picked up 8 to 10 inches. Traffic was brought to a near standstill in Billings on the morning of the 29th, and several roads had to be closed. A woman driving on I-90 near Hardin rolled her vehicle on the morning of the 29th, and was treated for minor injuries.								
<b><u>MONTANA, West</u></b>									
<b>MTZ002&gt;003</b>	<b>West Glacier Region - Flathead/Mission Valleys</b>								
	<b>03</b>	<b>0700MST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>04</b>	<b>0700MST</b>							
	Ten inches of snow fell at Big Mountain Ski Resort and 13 inches at Bigfork. Ten inches of snow fell at a location 4 miles east of Glacier International Airport in 12 hours ending 700pm on the 3rd while the airport itself only received four and a half inches. Also, 7 inches of snow fell at the 4600 foot msl elevation level above Seeley Lake.								
<b>MTZ001-004&gt;005</b>	<b>Kootenai/Cabinet Region - Lower Clark Fork Region - Missoula / Bitterroot Valleys</b>								
	<b>04</b>	<b>0300MST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>06</b>	<b>0300MST</b>							
	Ten inches of snow fell at Lookout Pass Ski Area for the 24 hours ending at 300am on the 5th, and another 15 inches fell in the 24 hours afterward. Near Lolo, 7 inches of snow was reported within 12 hours. Florence, in zone 5, also received 7 inches within 12 hours.. In zone 1, 7 inches of snow fell 300 feet above the valley floor near Thompson Falls.								
<b>MTZ002</b>	<b>West Glacier Region</b>								
	<b>09</b>	<b>0700MST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>10</b>	<b>0700MST</b>							
	Nine inches of snow fell at Big Mountain Ski Resort.								
<b>MTZ006</b>	<b>Bitterroot / Sapphire Mountains</b>								
	<b>16</b>	<b>1700MST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>18</b>	<b>1700MST</b>							
	Discovery Ski Area received 9 1/2 inches of snow for the 24 hours ending at 500 pm on the 16th, then another 10 1/2 inches for the 24 hours following. Also, Philipsburg received 12 inches of snow for 24 hours ending at 900am on the 17th.								
<b>MTZ004</b>	<b>Lower Clark Fork Region</b>								
	<b>18</b>	<b>0300MST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
	<b>19</b>	<b>0300MST</b>							
	Lookout Pass Ski Area received 10 inches of snow.								

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## NEBRASKA, Central

**NEZ004>010-022>029-035>038-056>059-069>071** **Sheridan - Cherry - Keya Paha - Boyd - Brown - Rock - Holt - Garden - Grant - Hooker - Thomas - Blaine - Loup - Garfield - Wheeler - Arthur - Mcpherson - Logan - Custer - Deuel - Keith - Perkins - Lincoln - Chase - Hayes - Frontier**

06	1000CST	0	2	15K	Winter Storm
08	0600CST				

A winter storm produced from three to six inches of snowfall across Western and North Central Nebraska with some amounts up to 10 inches in parts of North Central Nebraska. I-80 was closed from Ogallala to Lincoln due to hazardous driving conditions created by the snow and blowing snow. Many schools were cancelled on Monday. Several traffic accidents due to icy road conditions were reported.

### NEZ038

**Custer**

16	0500CST	0	1	11K	Ice Storm
17	1000CST				

Periods of freezing drizzle caused several accidents due to icy roads. One of the accidents involved an injury in which a following vehicle slid into a vehicle slowing to make a turn.

### Keith County

17 N Ogallala	24 1914MST	0	0		Hail (0.75)
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### Lincoln County

5 SW North Platte	24 2133CST	0	0		Hail (0.75)
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### Mcpherson County

20 NW Tryon	24 2330CST	0	0		Hail (0.75)
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### Chase County

4 NE Imperial	26 1850MST	0	0		Hail (0.75)
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### Lincoln County

Maxwell	26 2045CST	0	0		Hail (0.75)
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### Custer County

1 N Callaway	26 2125CST	0	0		Hail (1.00)
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### Custer County

6 W Broken Bow	26 2145CST	0	0		Hail (1.00)
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### Loup County

15 W Taylor	26 2215CST	0	0	16K	Lightning
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Lightning struck and killed 20 head of cattle.

### Loup County

4 WNW Taylor	26 2220CST	0	0		Hail (0.75)
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### Loup County

4 ESE Taylor to 6 E Taylor	26 2240CST 2245CST	0	0	20K	Thunderstorm Wind
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Downburst thunderstorm winds caused damage to a couple of farmsteads. A trailer home sustained damage as well as livestock and irrigation equipment. Other losses included a few head of cattle killed.

### Custer County

9 WSW Callaway	26 2110CST	0	1	4K	Flash Flood
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Heavy thunderstorm rain washed out a culvert in the road. An injury accident occurred when a vehicle drove into the washed out area of the road.

### Garden County

11 SW Oshkosh to Oshkosh	28 1730MST	0	0		Hail (2.00)
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### Garden County

1 N Wellen	28 1812MST	0	0		Hail (1.00)
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### Arthur County

13 SW Arthur	28 1840MST	0	0		Hail (0.75)
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### Arthur County

8 E Arthur	28 1935MST	0	0		Hail (0.75)
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### Sheridan County

15 NNE Ellsworth	28 1958MST	0	0		Hail (0.75)
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### Hooker County

20 S Mullen	28 2010MST	0	0		Hail (0.75)
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### Hooker County

18 SSE Mullen	28 2025MST	0	0		Hail (1.00)
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# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## NEBRASKA, Central

<b>Mcpherson County</b> Flats	28	2035CST			0	0			Hail (1.50)
<b>Thomas County</b> 20 S Seneca	28	2135CST			0	0			Hail (0.75)
<b>Cherry County</b> 10 SW Cody	28	2215MST			0	0			Hail (0.75)
<b>Thomas County</b> 7 N Halsey	28	2233CST			0	0			Hail (0.75)
<b>Blaine County</b> 5 SSE Purdum	28	2243CST			0	0			Hail (1.00)
<b>Brown County</b> 31 S Johnstown	28	2255CST			0	0			Hail (1.00)
<b>Brown County</b> 27 S Ainsworth	28	2315CST			0	0			Hail (2.00)
<b>Rock County</b> 18 NNE Rose	28	2359CST			0	0			Hail (1.00)
<b>NEZ004&gt;010-022&gt;029-035&gt;038-056&gt;059-069&gt;071</b>			<b>Sheridan - Cherry - Keya Paha - Boyd - Brown - Rock - Holt - Garden - Grant - Hooker - Thomas - Blaine - Loup - Garfield - Wheeler - Arthur - Mcpherson - Logan - Custer - Deuel - Keith - Perkins - Lincoln - Chase - Hayes - Frontier</b>						
	30	0800CST			0	0			Winter Storm
	31	2330CST							

A spring snowstorm produced snow amounts ranging from four to six inches over parts of Southwest Nebraska to as much as 16 to 20 inches in the Spencer area in North Central Nebraska. The snow and strong winds caused several power outtages. Schools were also closed in Holt and Boyd counties due to the inclement weather.

## NEBRASKA, East

<b>NEZ015-018-030&gt;034-042&gt;045-050&gt;053-065&gt;068-078-088&gt;093</b>			<b>Thurston - Wayne - Boone - Madison - Stanton - Cuming - Burt - Platte - Colfax - Dodge - Washington - Butler - Saunders - Douglas - Sarpy - Seward - Lancaster - Cass - Otoe - Saline - Jefferson - Gage - Johnson - Nemaha - Pawnee - Richardson</b>						
	07	1600CST			0	0	26K		Winter Storm
	08	1500CST							

A major winter storm moved through the central plains and created near blizzard conditions over portions of eastern Nebraska. Heavy snow combined with strong northerly winds of 40-45 mph created considerable blowing snow with 6-15 foot snow drifts common. The heaviest snow fell in an area from Gage county northeast through the south and southeast portion of the Omaha metropolitan area where 11-16 inches of snow fell. Lesser amounts occurred further to the north with 4-6 inches at Norfolk. Schools and businesses were closed for a few days as the strong winds continued to cause blowing snow making the task of cleaning up very difficult.

<b>NEZ051&gt;053</b>			<b>Saunders - Douglas - Sarpy</b>						
	16	1452CST			0	0	23K		Flood
	19	1507CST							

An ice jam formed along the Platte river from just downstream of the highway 77 railroad bridge to Woodcliff to Leshara. In addition, ice bridging was evident near the confluence of the Platte and Elkhorn rivers near Vencils Island. Most of the flooding occurred on the west side of the Platte river. Demolition experts used dynamite to open up channels near Vencils Island and Woodcliff. The dynamiting was successful and water levels receded.

<b>Colfax County</b> Rogers	27	0040CST			0	0			Hail (0.75)
<b>Dodge County</b> North Bend	27	0043CST			0	0			Hail (0.75)
<b>Dodge County</b> 2 W Fremont	29	2204CST			0	0			Hail (1.00)

## NEBRASKA, Extreme Northeast

NONE REPORTED.

## NEBRASKA, Extreme Southwest

<b>NEZ080&gt;081</b>			<b>Hitchcock - Red Willow</b>						
	07	1200CST			0	0			Winter Storm
	08	0000CST							

Snowfall of 3 to 6 inches accompanied by winds 30-40 mph whipped up drifts 2 to 4 feet.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## NEBRASKA, Extreme Southwest

**Dundy County**  
 23 NW Benkelman 26 1900MST 0 0 Hail (0.75)

## NEBRASKA, South Central

NEZ039>041-046>049- Valley - Greeley - Nance - Sherman - Howard - Merrick - Polk - Dawson - Buffalo - Hall - Hamilton - York -  
 060>064-072>077- Gosper - Phelps - Kearney - Adams - Clay - Fillmore - Furnas - Harlan - Franklin - Webster - Nuckolls -  
 082>087 Thayer  
 07 0000CST 0 0 100K 0 Winter Storm  
 12 1200CST

A strong, late season winter storm belted south central Nebraska with snowfall of 4 to 15 inches over the weekend. The storm developed in the southwest United States and then slowly moved northeast across the Central Plains. Widespread freezing rain and drizzle spread across the region by the morning of the 7th leaving an icy coating on area roads. The ice changed to snow Saturday afternoon and became heavy at times with lasting through the night. By midday on the 8th, amounts ranged from 4 inches at St. Paul to 15 inches at Deshler. A narrow band of snow in excess of one foot fell from Nelson to York. Another area of snowfall totalling near one foot was reported in the Ord area.

By the evening of the 8th, a north wind gusting to 50 mph caused near blizzard conditions. Numerous roads were closed or impassable in the region, including Interstate 80. Drifts as high as ten feet were reported. Since there were accurate forecasts with ample lead time, many people stayed off the roads, thus limiting the number of accidents.

Record cold followed the snow with temperatures dropping well below for three straight mornings beginning on March 9.

## NEBRASKA, West

NEZ001>003-019>021- Sioux - Dawes - Box Butte - Scotts Bluff - Banner - Morrill - Kimball - Cheyenne  
 054>055

06 1700MST 0 4 49K 0 Winter Storm  
 07 1000MST

A winter storm affected the Nebraska panhandle, with 12 inches of snowfall reported in Broadwater. A total of 10 inches of snow fell in Kimball and Chadron, with 8 inches of total snowfall in Potter and across Dawes county. Up to 7 inches of snow was reported across the rest of the panhandle. Highways in the central and northern panhandle were icy and snow packed. Visibility dropped to less than a mile at times in Scottsbluff and in Chadron. A man lost control of his vehicle on icy Interstate 80, 3 miles west of Lodgepole. The vehicle rolled onto its top and slid into a ditch and was totalled. The driver of the vehicle was not injured.

Another rollover accident occurred one mile east of Lodgepole. A driver rolled his vehicle into a ditch while trying to change lanes on the icy Interstate 80. Two passengers suffered head injuries.

A driver lost control of his vehicle on Highway 30, 4 miles west of Lodgepole. The car rolled but the driver was not injured.

A driver of a semi-truck collided with a snowplow, 9 miles east of Sidney, due to icy roads and poor visibilities. The collision caused \$1000 damage to the snowplow and 5,000 to the semi.

Another accident occurred 9 miles east of Sidney on Interstate 80, in which a semi-truck jackknifed. The jackknifed semi rolled and the rear trailer broke open. The driver was taken to the hospital for head injuries and a passenger was treated and released from the hospital for neck and back injuries.

**Sioux County**  
 20 SW Agate 28 1530MST 0 0 0 0 Hail (1.75)  
 1540MST

A storm produced golf ball size hail 20 miles SW of Agate or 5 miles NE of Henry.

**Cheyenne County**  
 4 N Brownson 28 1558MST 0 0 0 0 Hail (0.75)  
 1610MST

**Cheyenne County**  
 5 N Sidney 28 1619MST 0 0 0 0 Hail (0.75)  
 1625MST

**Cheyenne County**  
 6 SE Gurley 28 1620MST 0 0 0 0 Hail (1.75)  
 1650MST

Marble to golf ball size hail fell and covered the ground up to 5 inches.

**Cheyenne County**  
 11 NE Sidney 28 1630MST 0 0 0 0 Hail (1.75)  
 1640MST

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>NEBRASKA, West</b>									
Golf ball size hail fell 11 miles northeast of Sidney.									
<b>Cheyenne County</b> 8 N Lodgepole to 17.5 N Lodgepole	28	1702MST 1707MST			0	0	0	0	Hail (1.75)
Golf ball size hail fell 8 miles north of Lodgepole.									
<b>Scotts Bluff County</b> 5 NE Minatare	28	1720MST 1730MST			0	0	0	0	Hail (0.75)
<b>Scotts Bluff County</b> 15 S Morrill	28	1815MST 1830MST			0	0	0	0	Hail (0.75)
<b>Box Butte County</b> 7 S Alliance	28	1834MST 1840MST			0	0	0	0	Hail (1.00)
Quarter size hail fell 7 miles south of Alliance.									
<b>Box Butte County</b> Alliance	28	1835MST 1847MST			0	0	0	0	Hail (0.75)
<b>Scotts Bluff County</b> 15 S Morrill	28	2005MST 2027MST			0	0	0	0	Hail (0.75)
<b>Box Butte County</b> Alliance	28	2015MST			0	0	12K	0	Lightning
A bolt of lightning hit a tree around which a porch of a house was built. All of the windows in the porch were shattered. The bolt also damaged the adjoining kitchen, bathroom and an antique collection. The homeowners stated that the biggest loss was all of their antiques.									
<b>Scotts Bluff County</b> 3 WNW Scottsbluff	28	2020MST 2029MST			0	0	0	0	Hail (0.75)
<b>Box Butte County</b> 5 NW Alliance	28	2120MST 2126MST			0	0	0	0	Hail (0.75)
<b>Scotts Bluff County</b> Mitchell	28	2129MST 2136MST			0	0	0	0	Hail (0.75)
A storm produced 3/4 inch hail which covered the ground.									
<b>NEVADA, North</b>									
<b>NVZ008&gt;009-011&gt;012</b>	<b>Southwest And South Central Elko - Southeast Elko - White Pine - Lander/Eureka</b>								
	06	2000PST			0	0			Heavy Snow
	07	0800PST							
A strong winter storm dropped locally heavy snow over parts of Northeast and East Central Nevada. 12 hour snowfall totals ending at 8:00 am PST included: 10 inches at Austin, 8 inches at Ruby Lake Wildlife Refuge and Jiggs, 6 inches at Spring Creek, 5 inches at Ruth, Ely, Diamond Valley, Emigrant Pass (20 W Elko) and Eureka, 4 inches at Lund and the Reese River Valley (20 SW of Austin), and 3 inches at Battle Mountain.									
<b>NVZ006&gt;009-011&gt;012</b>	<b>Humboldt - Northern Elko - Southwest And South Central Elko - Southeast Elko - White Pine - Lander/Eureka</b>								
	28	0900PST			0	0			Heavy Snow
	29	0900PST							
A very strong winter storm dropped heavy snow over much of Northern and East Central Nevada. 24 hour snowfall totals ending at 9:00 am PST included: 14 inches at both Eureka and Halleck, 12 inches at Wells and Emigrant Pass (20 W of Elko), 11 inches at Lamoille and Ruth, 10 inches at Austin and Cherry Creek, 8 inches at Ely, Deeth and Elko, 7 inches at Tuscarora and Jackpot, and 6 inches at both Battle Mountain and Winnemucca.									
<b>NEVADA, South</b>									
<b>NVZ013-019</b>	<b>Northern Nye - Spring Mountains</b>								
	06	0200PST 1400PST			0	0			Heavy Snow
A strong frontal system moved through central and southern Nevada producing locally heavy snow showers. In central Nevada, six inches of snow fell in the town of Tonopah and eight inches fell in Manhattan. In the Spring Mountains of southern Nevada, the town of Mount Charleston received eight inches and the 8,000 foot level of Lee Canyon picked up 10 inches of snow.									

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>NEVADA, South</u></b>									
NVZ017	06	1305PST	Western Clark/Southern Nye		0	0			High Wind (G50)
			A 58 mph wind gust from the northwest was recorded near Indian Springs as a vigorous cold front passed.						
NVZ019	13	1800PST	Spring Mountains		0	0			Heavy Snow
	14	0600PST	A fast moving winter storm left significant snow in the southern Nevada mountains as it moved across the region during the night. In the Spring Mountains, Mount Charleston (7,000 feet) saw a total of nine inches of new snow and Lee Canyon (8,000 feet) received 15 inches.						
NVZ019	25	2200PST	Spring Mountains		0	0			Heavy Snow
	26	0800PST	A moist Pacific Storm covered the extreme southern Nevada mountains with heavy snow. In the Spring Mountains, the town of Mount Charleston (7,000 feet) received six inches of snow overnight while Lee Canyon (8,000 feet) picked up 16-18 inches of new snow.						
NVZ019	28	0100PST	Spring Mountains		0	0			Heavy Snow
		1900PST	The coldest storm of the season rolled across southern Nevada producing thunderstorms and locally heavy snow. In the Spring Mountains, both Mount Charleston (7,000 feet) and Lee Canyon (8,000 feet) received a total of 12 inches of snow. The Las Vegas Valley also saw some brief snow showers but the flakes only stuck to grassy surfaces near the western foothills.						
<b><u>NEVADA, West</u></b>									
NVZ003	05	0640PST	Greater Reno/Carson City/Minden Area		0	0			Heavy Snow
	06	0640PST	24 hour snow fall: Carson City 6-8 inches.						
NVZ003	05	0730PST	Greater Reno/Carson City/Minden Area		0	0			Heavy Snow
	06	0730PST	24 hour snow fall: 5 miles SE Gardnerville NV 14 inches, and Steamboat Springs (10 miles S Reno NV) 10 inches.						
NVZ003	05	1330PST	Greater Reno/Carson City/Minden Area		0	0			Heavy Snow
		2330PST	10 hour snow fall: 7 inches over Anderson Hill ( about 15 miles north of Reno, NV). A big-rig truck jack-knifed and blocked U.S . 395 at 2200 PST.						
NVZ002	23	1130PST	Greater Lake Tahoe Area		0	0			Heavy Snow
	24	1130PST	24 hour snow fall: Mt. Rose Ski Area at 8800 feet 26 inches.						
NVZ004	23	1214PST	Western Nevada Basin And Range		0	0			High Wind (G59)
		1215PST	Peak wind gust 59 knots near Stagecoach NV. No damage reported.						
NVZ004	23	1214PST	Western Nevada Basin And Range		0	0	25K		High Wind (G60)
		1215PST	Wind blew down tree across roof of house in Fallon NV, causing about \$25000 of damage. Estimated peak gust 60 knots.						
<b><u>NEW HAMPSHIRE, North and Central</u></b>									
NHZ013	12	1230EST	Interior Rockingham		0	14			Snow Squall
		1300EST	A blinding snow squall caused several multi-vehicle accidents (involving a total of about 40 vehicles) on Interstate 93 near the Windham/Derry line. The accidents occurred about 12:30 pm when the squall hit, reducing visabilities to near zero and causing the roadway to become extremely slippery. Area hospitals treated 14 of the injured.						
NHZ001>003-007>010-013>014	14	0800EST	Northern Coos - Southern Coos - Northern Grafton - Sullivan - Merrimack - Belknap - Strafford - Interior Rockingham - Coastal Rockingham		0	0			Moderate Snowfall
		1700EST							

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	

## NEW HAMPSHIRE, North and Central

**NHZ004>006 Northern Carroll - Southern Grafton - Southern Carroll**  
**14 0900EST** **0 0**  
**1700EST** **Heavy Snow**  
 An intense area of low pressure moving eastward from the Great Lakes brought heavy snow to parts of central New Hampshire. Elsewhere in the state, a moderate snowfall occurred. Snowfall amounts ranged from an inch or less in the Connecticut River Valley up to 10 inches in some of the higher terrain of central New Hampshire.

**NHZ001>010 Northern Coos - Southern Coos - Northern Grafton - Northern Carroll - Southern Grafton - Southern Carroll - Sullivan - Merrimack - Belknap - Strafford**  
**21 1800EST** **0 0**  
**22 1800EST** **Heavy Snow**  
 Low pressure moving slowly northeastward from the mid-Atlantic Coast brought heavy snow to much of the state with mixed precipitation in southeastern parts of the state. Snowfall amounts ranged from 6 to 12 inches from Merrimack and Sullivan Counties northward with lesser amounts in southeastern areas. Along the immediate coast, little, if any, snow accumulated.

**NHZ001>010-013>014 Northern Coos - Southern Coos - Northern Grafton - Northern Carroll - Southern Grafton - Southern Carroll - Sullivan - Merrimack - Belknap - Strafford - Interior Rockingham - Coastal Rockingham**  
**27 1200EST** **0 0**  
**31 1900EST** **Record Warmth**  
 A west to southwesterly flow of unseasonably mild air brought record or near-record warmth to New Hampshire during the last five days of the month. In Concord, each of the last five days were above 70 degrees with daily record high temperatures being set on the 27th (76), 28th (86), and 31st (89). The high temperature of 89 on the 31st set a new record for the month of March. A cold front dropping down from the north brought an end to the unseasonable warmth late on the 31st.

**Grafton County Countywide**  
**29 1500EST** **0 0**  
**31 2359EST** **Flood**

**Coos County Countywide**  
**30 0600EST** **0 0**  
**31 2359EST** **Flood**

**Carroll County Countywide**  
**31 1900EST** **0 0**  
**2359EST** **Flood**  
 Rapid snowmelt due to record breaking high temperatures combined with rainfall to cause river flooding on the Connecticut and Androscoggin Rivers and tributaries and the Saco River. Many homes were flooded and schools were closed in the affected areas.

**NHZ001>005 Northern Coos - Southern Coos - Northern Grafton - Northern Carroll - Southern Grafton**  
**29 1530EST** **0 0**  
**31 2359EST** **Flood**  
 Record warmth and rapid snowmelt caused rivers in northern New Hampshire to flood from late March through early April. The snowmelt combined with a line of thunderstorms that produced 1.5 to 2 inches of rain on the evening of the 30th resulted in record or near record flows on the upper Connecticut River, and on the Androscoggin and Swift Rivers. The Connecticut reached a crest of 15.63 feet at 1745 at North Stratford on the 31st (13 ft. flood stage) and a crest at West Lebanon of 19.02 feet on the 29th (18 ft flood stage). Additional crests were reached in early April. The Saco River crested at Conway at 9.54 feet late on the 31st (9 ft. flood stage).

## NEW HAMPSHIRE, Southern

**NHZ012 Hillsborough**  
**08 1900EST** **0 0**  
**09 0000EST** **Heavy Rain**

**NHZ012 Hillsborough**  
**10 0700EST** **0 0**  
**13 1200EST** **Flood**  
 A powerful storm system moving slowly northeast from the Ohio Valley to the eastern Great Lakes brought strong winds and heavy rainfall to New Hampshire, resulting in urban street flooding, basement flooding, and some minor river flooding. The Piscataquog River at Goffstown reached flood stage of 9 feet at 7 AM on March 10th and crested at 9.1 feet at 10:30 AM on the 10th, then fell back below flood stage at noon on March 13th. Rainfall totals generally were in the 2 to 3 inch range. Some totals included: Hollis, 3.10"; Nashua, 2.72"; Manchester, 2.48"; and Weare, 2.31".

**NHZ011 Cheshire**  
**22 0000EST** **0 0**  
**1000EST** **Heavy Snow**  
 A strong early Spring nor'easter was caused by a low pressure system which moved to the north-northeast from the Virginia coast on March 21st passing to the southeast of Cape Cod on March 22nd. This storm brought 3 to 5 inches of snow to southern New Hampshire. However, heavy snow was reported across northern Cheshire County, with totals of 6 to 8 inches in that area.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## NEW JERSEY, Northeast

<b>Union County</b>										
Countywide	08	2300EST			0	0				Heavy Rain
	09	0500EST								
<b>Essex County</b>										
Countywide	08	2330EST			0	0				Heavy Rain
	09	0900EST								
<b>Hudson County</b>										
Countywide	08	2330EST			0	0				Heavy Rain
	09	0900EST								
<b>Bergen County</b>										
Countywide	09	0030EST			0	0				Heavy Rain
		0900EST								

Two low pressure systems formed along a front over the Southeast U.S. One low formed over the Western Gulf of Mexico and another formed off the Southeast U.S. Coast. As both lows moved north-northeast, they intensified. A strong moist east wind flow developed ahead of the approaching strong warm front.

This system produced widespread heavy rainfall including thunderstorms that caused urban flooding across parts of the region. Some low-lying and poor drainage areas, including streets were flooded throughout the area. Rainfall began around 11:30 am on March 8th and became heavy producing flooding by the times indicated above.

This system also produced strong wind gusts from 30 to 40 mph that in combination with the heavy rain caused some small tree limbs to fall.

Rainfall amounts generally ranged from 1 to 3 inches. Here are selected rainfall amounts:

- o For Union County, 2.03 inches was measured at Canoe Brook.
- o For Essex County, from 1.44 inches at Essex Fells to 2.69 inches at Verona. At Newark Airport, 1.66 inches of rain fell. At Newark Airport, a new daily rainfall record was set. A total of 1.13 inches fell on the 9th which broke the old daily record of 0.82 (1942).
- o For Hudson County, 1.69 inches of rain fell at Harrison.
- o For Bergen County, from 1.67 inches at Oakland to 2.41 inches at Franklin Lake.

## **NJZ002>003**

<b>Western Passaic - Bergen</b>										
	22	0300EST			0	0				Heavy Snow
		1130EST								

A low pressure system developed off the Mid-Atlantic Coast early Sunday morning and moved northeast, passing east of Long Island during early afternoon. Heavy snow formed and spread northeast over the area.

Snowfall amounts ranged from 6 to 8 inches. Here are selected amounts:

- o For Bergen County, 6 inches of snow was measured at Rutherford and Ridgefield.
- o For Western Passaic County, snowfall amounts ranged from 6 inches at Charlotteburg to 7 inches at Greenwood Lake.

## NEW JERSEY, South and Northwest

<b>Burlington County</b>										
Countywide	08	1100EST			0	0				Heavy Rain
	09	1100EST								
<b>Camden County</b>										
Countywide	08	1100EST			0	0				Heavy Rain
	09	1100EST								
<b>Gloucester County</b>										
Countywide	08	1100EST			0	0				Heavy Rain
	09	1100EST								
<b>Salem County</b>										
Countywide	08	1100EST			0	0				Heavy Rain
	09	1000EST								

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>NEW JERSEY, South and Northwest</b>									
<b>Cumberland County</b>									
Countywide	08	1200EST			0	0			Heavy Rain
	09	1100EST							
<b>Mercer County</b>									
Countywide	08	1200EST			0	0			Heavy Rain
	09	1200EST							
<b>Atlantic County</b>									
Countywide	08	1300EST			0	0			Heavy Rain
	09	1100EST							
<b>Cape May County</b>									
Countywide	08	1300EST			0	0			Heavy Rain
	09	1100EST							
<b>Hunterdon County</b>									
Countywide	08	1300EST			0	0			Heavy Rain
	09	1300EST							
<b>Middlesex County</b>									
Countywide	08	1300EST			0	0			Heavy Rain
	09	1300EST							
<b>Monmouth County</b>									
Countywide	08	1300EST			0	0			Heavy Rain
	09	1300EST							
<b>Ocean County</b>									
Countywide	08	1300EST			0	0			Heavy Rain
	09	1300EST							
<b>Somerset County</b>									
Countywide	08	1300EST			0	0			Heavy Rain
	09	1200EST							
<b>Morris County</b>									
Countywide	08	1400EST			0	0			Heavy Rain
	09	1300EST							
<b>Sussex County</b>									
Countywide	08	1400EST			0	0			Heavy Rain
	09	1400EST							
<b>Warren County</b>									
Countywide	08	1400EST			0	0			Heavy Rain
	09	1400EST							
<b>NJZ019</b>									
		<b>Burlington</b>							
	10	1500EST			0	0			Flood
	11	0100EST							

Rain overspread New Jersey during the late morning and early afternoon on the 8th preceding a low pressure system's warm front. The heaviest rain fell during two periods. One burst of heavy rain fell during the late afternoon and evening of the 8th. The second burst occurred during the morning of the 9th as a line of showers and thunderstorms moved through the region. Scattered pockets of heavier rain also affected the northwest part of the state during the afternoon and evening of the 9th.

Storm totals averaged between 1.5 and 3.0 inches with the highest amounts falling along the coast and Sussex County. This caused some urban and poor drainage flooding, but was not heavy enough to push most of the major streams or rivers above bankfull. The one exception was the Rancocas Creek in Burlington County. Low lying areas along the creek started experiencing flooding during the mid day hours on the 9th as the runoff from the heavy rain was slowed by the incoming high tide in the lower part of the creek. Damage occurred to bulkheads and basements from Mount Holly to Southampton and also in Brown Mills along the north branch of the creek. Flood waters also crept into the backyards of homes in Lumberton near Burlington County Road 541. The North Branch of the Rancocas Creek at Pemberton did reach its flood stage of 2.7 feet the next day (the 10th) at 3 p.m. EST and remained above flood stage until 1 a.m. EST on the 11th. It crested at 2.71 feet at 7 p.m. EST on the 10th. Elsewhere, the unusually wet winter raised the water table above normal. This led to a rash of basement flooding reports, especially in Atlantic County.

Storm precipitation totals included 3.13 inches in Freehold (Monmouth County), 3.11 inches in Red Bank (Monmouth County), 3.09 inches in Brick Township (Ocean County), 2.95 inches at the Marina in Atlantic City, 2.44 inches in Harvey Cedars (Ocean County), 2.34 inches in New Lisbon (Burlington County), 2.31 inches in Wantage (Sussex County), 2.30 inches in Montague (Sussex County), 2.25 inches in Absecon (Atlantic County), 2.14 inches at the Atlantic City International Airport, 2.12 inches in Stewartsville (Warren County), 2.10 inches in Atsion (Burlington County), 1.87 inches in Millville (Cumberland County), 1.86

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## **NEW JERSEY, South and Northwest**

inches at the McGuire AFB, 1.83 inches in Mount Laurel (Burlington County), 1.75 inches in Cape May Courthouse, 1.74 inches in Somerdale (Camden County) and Pottersville (Somerset County), 1.72 inches in Seabrook (Cumberland County), 1.64 inches in Cherry Hill (Camden County), 1.62 inches in Sparta (Sussex County), 1.52 inches in Lambertville (Hunterdon County), 1.50 inches in New Brunswick (Middlesex County), 1.47 inches in Wertsville (Hunterdon County), 1.43 inches in South Harrison (Gloucester County), 1.41 inches in Chatham (Morris County), 1.28 inches in Princeton (Mercer County), 1.21 inches in Trenton (Mercer County) and 1.08 inches in Verga (Gloucester County).

### **NJZ012>014-019>026 Middlesex - Western Monmouth - Eastern Monmouth - Burlington - Western Ocean - Cumberland - Western Atlantic - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean**

**09 0300EST 1100EST 0 0 Wind**

### **NJZ013>014-026 Western Monmouth - Eastern Monmouth - Eastern Ocean**

**09 0300EST 0700EST 0 0 Tidal Flooding**

Strong east to southeast winds preceding and accompanying a low pressure system's warm front brought wind gusts as strong as 55 mph across Eastern New Jersey and caused some minor tidal flooding at the time of the early morning high tide on the 9th. The heavy rain in progress at the time of high tide exacerbated the minor tidal flooding along the shore. The strongest winds occurred during the first half of the day.

The strong winds knocked down a house under construction in Sea Isle City (Cape May County). The strong winds also pulled down tree limbs and power lines. GPU reported about 9,000 homes and businesses lost power in Central New Jersey in Middlesex, Monmouth and Ocean Counties the morning of the 9th. The last 2,500 in Point Pleasant (Ocean County) were back on line that afternoon around 430 p.m. EST. Farther south, Atlantic Electric reported about 2,400 homes and businesses lost power in the southeast part of the state the morning of the 9th and all but 170 had power restored by 230 p.m. EST that afternoon. Peak wind gusts included 55 mph in Seaside Park, 48 mph at the Atlantic City International Airport in Pomona and 46 mph in Harvey Cedars.

The onshore flow also caused some minor tidal flooding with the early morning high tide on the 9th. In Keansburg (Monmouth County) the combination of heavy rain and higher than normal tides flooded the streets with more than 2 feet of water and forced school closures for the day. In Ocean County, minor tidal flooding was reported from Point Pleasant to Long Beach Island most notably along the Ocean Beach sections of Dover Township and Lavallette. Minor back bay flooding was also reported in Seaside Park and Seaside Heights.

### **Ocean County Tuckerton**

**09 0832EST 0838EST 0 0 Thunderstorm Wind (G70)**

A squall line of severe thunderstorms produced pockets of hurricane force wind gusts from Tuckerton to Waretown in Ocean County. These thunderstorms occurred within a system that was already producing wind gusts as strong as 55 mph within the county. The worst damage occurred in Tuckerton as the thunderstorms tore off the roofs from a couple of summer homes and knocked down poles. Downed poles were also reported in Manahawkin and a boat on dry dock in Waretown was knocked over.

### **NJZ001-008**

**Sussex - Morris  
18 0200EST 1200EST 0 0 Wintry Mix**

Light sleet and freezing rain overspread much of Sussex County and the northwest valleys of Morris County during the first half of the day on the 18th. Precipitation started in the early morning as sleet and freezing rain and slowly changed over to plain rain after sunrise. Precipitation was all rain by around 9 a.m. in Morris County. Precipitation ended by noon, but even then High Point in far northwestern Sussex County was still experiencing freezing rain. Storm totals were generally under a quarter of an inch. Untreated roadways were hazardous. A low pressure system in the Mississippi Valley pumped moisture east into the Middle Atlantic States. Unfortunately while it was warm enough for rain above the ground, the cold air near the surface left by a departing high pressure system made precipitation fall as sleet and/or freezing rain.

### **Mercer County Trenton**

**19 1125EST 1340EST 0 0 Flood**

The unseasonably wet year and month of March set the stage for flooding along the Assunpink Creek around noon on the 19th in Mercer County. Rain began again across central New Jersey toward midnight on the 18th and fell at a moderate clip (around two tenths of an inch per hour) between 3 a.m. and 8 a.m. EST on the 19th. This was too much for the saturated ground and the Assunpink Creek. In Trenton, the creek was above its 7 foot flood stage from 1125 a.m. until 1:40 p.m. EST the on the 19th. It crested at 7.1 feet at 1215 p.m. EST. The low pressure system responsible for the rain was in the Ohio Valley the morning of the 19th and pumped in moisture from the Gulf of Mexico and the Atlantic Ocean into the Middle Atlantic States. Storm rainfall totals included 1.38 inches in Princeton and 1.11 inches in Hamilton Square.

### **NJZ001-007**

**Sussex - Warren  
21 0700EST 22 0800EST 0 0 Wintry Mix**

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed    Injured		Estimated Damage Property    Crops		Character of Storm
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## NEW JERSEY, South and Northwest

A coastal low pressure system dropped a mixture of sleet and snow across Northwest New Jersey from the morning of the 21st through sunrise on the 22nd. Precipitation started as rain before dawn on the 21st, but as cold air was drawn into the region from New York State and Canada, precipitation slowly changed over from rain to sleet in the morning and early afternoon and then to snow by the evening, starting first in the higher elevations. It took a while for precipitation to become snow in the valleys, especially in Warren County. Periods of light snow persisted through the night of the 21st until the upper level low guiding the surface low pressure system (near Cape Cod the morning of the 22nd) moved through the region. The heaviest precipitation fell as rain earlier in the day on the 21st and thus accumulations were held down, mainly between two and four inches. The region also avoided a burst of heavier snow that accompanied the upper level low pressure system early in the morning on the 22nd. Accumulations included 4 inches in Highland Lakes and Montague, 2 inches in Wantage and Newton, 1.5 inches in Hackettstown and 0.6 inches in Stewartville. The low pressure system that caused the wintry mix moved northeast from North Carolina early in the morning on the 21st, to just east of Delaware the evening of the 21st to Cape Cod the morning of the 22nd. The upper level low steering the surface system moved through New Jersey during the early morning on the 22nd.

**NJZ008**

**Morris**

21	0700EST	0	0		<b>Winter Storm</b>
22	0900EST				

A coastal low pressure system and its driving upper air system produced a winter storm across Morris County. Precipitation started as rain before dawn on the 21st, but as cold air was drawn into the region from New York State and Canada, precipitation slowly changed over from rain to sleet early in the morning in the northwest hills of the county and took most of the day for the change over to occur in the far southeastern parts of the county. The change to snow followed a similar slow path. Periods of snow persisted through the night of the 21st and were enhanced toward daybreak on the 22nd in the eastern parts of the county as the upper level low guiding the surface low pressure system (nearing Cape Cod the morning of the 22nd) moved through the region. Accumulations averaged around 6 inches and included 7 inches in Butler, 6 inches in Jefferson Township, 5 inches in Marcella and 4 inches in Chatham. The low pressure system that caused the winter storm moved northeast from North Carolina early in the morning on the 21st, to just east of Delaware the evening of the 21st to Cape Cod the morning of the 22nd. The upper level low steering the surface system moved through New Jersey during the early morning on the 22nd.

**NJZ013>014-024>026**

**Western Monmouth - Eastern Monmouth - Eastern Cape May - Eastern Atlantic - Eastern Ocean**

21	1130EST	0	0		<b>Coastal Flooding</b>
22	0330EST				

A coastal low pressure system helped produce some minor tidal flooding around the time of high tide during the early afternoon on the 21st and the very early morning on the 22nd. Tides averaged between 2.5 and 3.0 feet above normal and reached around 7.5 feet above mean low water at Sandy Hook, 6.7 feet above mean low water at both Atlantic City and Manasquan Inlet and around 7.0 feet above mean low water at Cape May. The highest tides occurred with the early morning high tide on the 22nd. Since the low pressure system moved quickly, winds shifted to the northwest around sunrise on the 22nd and tidal flooding was limited to only a two tide cycle event. Winds gusted to between 45 and 50 mph along the immediate shore, but these conditions paled in comparison to the northeasters that battered the region during late January and early February. The low pressure system that caused the minor tidal flooding moved northeast from North Carolina early in the morning on the 21st, to just east of Delaware the evening of the 21st to Cape Cod the morning of the 22nd.

**NJZ013-019**

**Western Monmouth - Burlington**

22	0200EST 0800EST	0	0		<b>Snow</b>
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An upper level low moved over New Jersey during the early morning of the 22nd and produced a narrow burst of heavier snow in a southwest to northeast corridor from Mount Laurel in Burlington County to Sandy Hook in Monmouth County. Accumulations within this band averaged 3 to 5 inches. Elsewhere across central and southern New Jersey, accumulations were lighter and generally two inches or less. Accumulations included 5.5 inches in Sandy Hook, 4.5 inches in Hazlet and Mount Laurel, 3.5 inches in Freehold and 3.0 inches in Marlboro Township.

**NJZ001-007>010-012>026**

**Sussex - Warren - Morris - Hunterdon - Somerset - Middlesex - Western Monmouth - Eastern Monmouth - Mercer - Salem - Gloucester - Camden - Burlington - Western Ocean - Cumberland - Western Atlantic - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean**

27	1000EST	0	0		<b>Unseasonably Warm</b>
31	2300EST				

An unseasonably warm air mass for late March brought record breaking high temperatures across New Jersey from March 27th through March 31st. The warmest day for the shore was the 29th, for interior central and southern New Jersey the 30th and for northwest New Jersey the 31st.

Statewide March 30th was the warmest March day of this century with a few locations reaching high temperatures of 90 degrees. Several locations across the Middle Atlantic States established new March monthly high temperature records. Morristown broke its previous March monthly record of 85 degrees set in 1977 with a high temperature of 89 degrees on the 30th. It was also the warmest March day of this century in New Brunswick with a high of 88 degrees. The Atlantic City International Airport in Pomona tied its March monthly record of 87 degrees set previously on March 29, 1945. The excessive heat contributed to a small brush fire along the New Jersey Transit lines in Middlesex County.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured		Estimated Damage Property Crops		Character of Storm
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## NEW JERSEY, South and Northwest

New daily record highs were set at the Atlantic City International Airport on the 27th and 30th, at the Atlantic City Marina on the 29th and in Morristown on the 30th and 31st. Across the region, the highest temperatures included 91 degrees in Freehold (Monmouth County), 90 degrees in Mount Holly (Burlington County), Long Beach Island (Ocean County) and Belle Mead (Somerset County), 89 degrees in Morristown (Morris County), Toms River (Ocean County) and Washington's Crossing (Mercer County), 88 degrees in Cherry Hill (Camden County), Flemington (Hunterdon County), New Brunswick (Middlesex County) and Sussex (Sussex County), 87 degrees in Stewartville (Warren County) and the Atlantic City International Airport, 86 degrees in South Harrison (Gloucester County), Seabrook and Millville (both Cumberland County), 84 degrees in Long Branch (Monmouth County) and at High Point (Sussex County), 83 degrees at Cape May Courthouse and 82 degrees at the Marina within Atlantic City. Cloudiness and a cold frontal passage on April 1st slowly brought temperatures back to seasonal levels in early April.

**NJZ013>014-016-020>026**

**Western Monmouth - Eastern Monmouth - Salem - Western Ocean - Cumberland - Western Atlantic - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean**  
**31 2359EST 0 0 Unseasonably Wet**

Following a trend that has lasted the whole year so far, March 1998 was an unseasonably wet month for the coastal counties of New Jersey and also for the counties along Delaware Bay. In Atlantic, Cumberland, Monmouth, Ocean and Salem Counties the monthly weighted county average precipitation totals were between 150 and 175 percent of normal. In Cape May County, the monthly precipitation average was between 175 and 200 percent of normal. County weighted average monthly precipitation totals were between 5 and 6.8 inches and represented a departure of between 2.0 and 3.1 inches above normal. March 1998 was the tenth wettest March on record at the Atlantic City Marina as 6.29 inches of precipitation fell. It was also the 4th wettest March on record at the Atlantic City International Airport in Pomona as 6.49 inches of precipitation fell.

## NEW MEXICO, Central and North

**NMZ002-004-008**

**Northwest Mountains Including Jemez - Sangre De Cristo Mountains - Westcentral Mountains**  
**06 1800MST 0 0 Heavy Snow**  
**07 1200MST**

Bands of heavy snow spread northeast during the night from west central New Mexico into the northern mountains. Chama reported 7 inches of wet snow while amounts reached 9-10 inches near Red River. Four to six inch amounts were reported across Cibola and northern Catron counties.

**NMZ004>005-008-010>011**

**Sangre De Cristo Mountains - Northeast Highlands - Westcentral Mountains - Sandia/Manzano Mountains - Central High Plains/Estancia Valley County**  
**15 0001MST 0 0 40K Heavy Snow**  
**16 0600MST**

A slow moving winter storm fed by tropical moisture produced a record snow of 32 inches at Sandia Crest in central New Mexico and dumped heavy wet snow from the west central mountains northeastward into the Sangre de Cristo Mountains northwest of Las Vegas. Pietown measured 12 inches in the west while Gascon reported 24 inches in western Mora County. Outside these isolated areas snow amounts averaged 8 inches. The heavy wet snow downed trees and utility lines in the east mountain communities of eastern Bernalillo County causing power and phone outages affecting over 2000 customers for 24 to 48 hours. Power outages and light shed damage were also reported in Mora County. Interstate 40 was closed at Tijeras for 6 hours. Rural roads in the heavy snow areas became muddy messes that once again taxed county road crews.

**NMZ005**

**Northeast Highlands**  
**17 1800MST 0 0 Heavy Snow**  
**18 0700MST**

Lake Maloya northeast of Raton reported an isolated heavy snow amount of 18 inches.

**NMZ001-008-013-019**

**Northwest Plateau - Westcentral Mountains - Quay - Chaves County Plains**  
**23 1300MST 0 0 Record Temperatures**

At least five New Mexico cities stretching from Farmington and Gallup in the northwest to Tucumcari, Roswell and Carlsbad in the east set new daily record high temperatures. Readings approached the high 80s in the east and the mid 70s in the west.

**NMZ005-009>011-017**

**Northeast Highlands - Middle Rio Grande Valley - Sandia/Manzano Mountains - Central High Plains/Estancia Valley County - Capitan/Northern Sacramento Mountains**  
**26 1100MST 0 1 High Wind (G50)**  
**2100MST**

A strong upper level low pressure center produced gusty winds across much of New Mexico with gusts above 50 mph in the northeast along the Sangre de Cristo foothills from near Las Vegas north to Raton, and over the mountain ridges near Albuquerque and Ruidoso. An elderly woman in Albuquerque suffered minor injuries when struck by a falling tree.

## NEW MEXICO, South Central and Southwest

NONE REPORTED.

## NEW MEXICO, Southeast

**Eddy County**

**4 ENE Loco Hills 17 1455MST 0 0 Hail (1.00)**



# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## **NEW YORK, Coastal**

<b>Bronx County Countywide</b>	<b>09</b>	<b>0100EST 0700EST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
<b>Kings County Countywide</b>	<b>09</b>	<b>0100EST 0700EST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
<b>New York County Countywide</b>	<b>09</b>	<b>0100EST 0700EST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
<b>Queens County Countywide</b>	<b>09</b>	<b>0100EST 0700EST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
<b>Richmond County Countywide</b>	<b>09</b>	<b>0100EST 0700EST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>
<b>Rockland County Countywide</b>	<b>09</b>	<b>0100EST 0700EST</b>			<b>0</b>	<b>0</b>			<b>Urban/Sml Stream Fld</b>

Two low pressure systems formed along a front over the Southeast U.S. One low formed over the Western Gulf of Mexico and another formed off the Southeast U.S. Coast. As both lows moved north-northeast, they intensified. A strong moist east wind flow developed ahead of the approaching strong warm front.

This system produced widespread heavy rainfall including thunderstorms that caused widespread urban and small stream flooding across the region. Many low-lying and poor drainage areas, including streets were flooded throughout the area. For example, significant street flooding occurred on Wellwood Ave. in North Lindenhurst (Nassau County) and on Riverside Ave. in Amityville (Suffolk County). Rainfall began around noon on March 8th and became heavy producing flooding by the times indicated above.

This system also produced strong wind gusts from 40 to 50 mph that in combination with the heavy rain caused some tree limbs to fall along with scattered power outages.

Here are selected rainfall amounts:

- o For Rockland County, from 1.44 inches at Suffern to 2.38 inches at Nanuet.
- o For New York City, from 2.30 inches at Central Park to 2.73 inches at LaGuardia Airport. For March 9th at Central Park, a new daily rainfall record was set. The new record is 1.82 inches and the old record was 1.70 inches (1983).
- o For Nassau County, from 2.62 inches at Levitown to 3.04 inches at Sea Cliff.
- o For Suffolk County, from 3.21 inches at Bridgehampton to 4.49 inches at the NWS Office at Upton.

## **Westchester County Countywide**

<b>09</b>	<b>0300EST 1000EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
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Two low pressure systems formed along a front over the Southeast U.S. One low formed over the Western Gulf of Mexico and another formed off the Southeast U.S. Coast. As both lows moved north-northeast, they intensified. A strong moist east wind flow developed ahead of the approaching strong warm front.

This system produced widespread heavy rainfall including thunderstorms that caused serious widespread urban and small stream flooding across the county. Many low-lying and poor drainage areas, including streets were flooded throughout the area. For example, up to 3 feet of water collected in the southbound lane of the Bronx River Parkway near Palmer Road in Bronxville. At least 12 vehicles became submerged in water and required towing from this area. Additionally, up to 33 vehicles required towing at various locations along the Bronx River Parkway. Heavy rain also caused roof and basement flooding.

Rainfall began around 1 pm on March 8th and became heavy producing flooding by around 3 am on March 9th. Rainfall amounts generally ranged from 2 to 4 inches. At Westchester County Airport, 3.06 inches was measured.

This system also produced strong wind gusts from 40 to 50 mph that in combination with the heavy rain caused some tree limbs to fall along with scattered power outages.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>NEW YORK, Coastal</b>									
<b>NYZ069</b>			<b>Rockland</b>						
	<b>22</b>	<b>0400EST</b>			<b>0</b>	<b>0</b>			<b>Heavy Snow</b>
		<b>1130EST</b>							
			A low pressure system developed off the Mid-Atlantic Coast early Sunday morning and moved northeast, passing east of Long Island during early afternoon. Heavy snow formed and spread northeast over the area, Snowfall amounts ranged from 4 to 8 inches across Rockland County.						
<b>NEW YORK, East</b>									
<b>NYZ043</b>			<b>Washington</b>						
	<b>09</b>	<b>1500EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>11</b>	<b>0200EST</b>							
			From March 9 to March 11, the Mettawee River in Washington County flooded. The flooding was mainly confined to low lands along the river. At Granville the river crested at seven feet during the morning of March 10. Flood stage at Granville is six feet.						
<b>NYZ040-047&gt;048</b>			<b>Montgomery - Schoharie - Western Schenectady</b>						
	<b>10</b>	<b>0700EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
		<b>2100EST</b>							
			On March 10, minor flooding occurred along the Schoharie Creek from Central Bridge in Schoharie County to the Mohawk River. At Burtonsville, the creek crested at 6.2 feet during the early afternoon. Flood stage at Burtonsville is 6 feet.						
<b>NYZ033-058-063</b>			<b>Hamilton - Western Greene - Western Ulster</b>						
	<b>14</b>	<b>0300EST</b>			<b>0</b>	<b>0</b>			<b>Winter Storm</b>
	<b>15</b>	<b>0000EST</b>							
			During March 14 and 15, an Alberta Clipper produced locally heavy snow over parts of eastern New York. The greatest snowfall occurred in the higher elevations of the Catskills and Adirondacks. Some specific snowfall totals included: 9 inches at Platte Cove in Greene County, 10 inches at Slide Mountain in Ulster County and 8 inches at Piseco Lake in Hamilton County. Over the remainder of the area snow totals generally ranged from 2 to 5 inches. The heavy wet snow caused numerous traffic accidents.						
<b>NYZ032&gt;033-039-041&gt;043-047&gt;048-051-058</b>			<b>Northern Herkimer - Hamilton - Fulton - Northern Saratoga - Warren - Washington - Schoharie - Western Schenectady - Western Albany - Western Greene</b>						
	<b>21</b>	<b>0200EST</b>			<b>0</b>	<b>0</b>			<b>Winter Storm</b>
	<b>22</b>	<b>1200EST</b>							
			During March 21 and 22, a coastal storm produced a mix of snow, sleet and freezing rain across eastern New York. The precipitation fell mainly as snow in the southern Adirondacks, upper Hudson Valley and northern Catskills. Snow totals in this region generally ranged from 6 to 10 inches. Snowfall was much lighter over the remainder of the region due to the snow frequently mixing with and changing to sleet and freezing rain. Interstate 88 in Schoharie County was closed for several hours due to numerous accidents. Some specific snowfall totals included: 12 inches at Whitehall in Washington County, 7 inches at Berne in western Albany County, 8 inches at Saratoga Springs in Saratoga County, 10 inches at Stillwater Reservoir in northern Herkimer County, 9 inches at Bolton Landing in Warren County and 6 inches at Piseco Lake in Hamilton County.						
<b>NYZ032&gt;033-038&gt;043-047&gt;054-058&gt;061-063&gt;066</b>			<b>Northern Herkimer - Hamilton - Southern Herkimer - Fulton - Montgomery - Northern Saratoga - Warren - Washington - Schoharie - Western Schenectady - Eastern Schenectady - Southern Saratoga - Western Albany - Eastern Albany - Western Rensselaer - Eastern Rensselaer - Western Greene - Eastern Greene - Western Columbia - Eastern Columbia - Western Ulster - Eastern Ulster - Western Dutchess - Eastern Dutchess</b>						
	<b>27</b>	<b>1200EST</b>			<b>0</b>	<b>0</b>			<b>Excessive Heat</b>
	<b>31</b>	<b>1900EST</b>							
			The end of March was a period of record heat across eastern New York as strong high pressure off the Mid-Atlantic coast produced a persistent southerly flow. Record high temperatures were set at Albany on March 27 and 31. On March 31, the mercury rose to 89 degrees which is the highest temperatures ever recorded in Albany during the month of March.						
<b>NYZ033</b>			<b>Hamilton</b>						
	<b>29</b>	<b>1600EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>31</b>	<b>2359EST</b>							
			Rapid snowmelt during the end of March caused flooding along the Sacandaga River in Hamilton County. Flooding occurred from just south of Wells to Northville. Most of the flooding was confined to low land areas near route 30. The river crested at Hope on April 1, with a reading of 7.57 feet. Flood stage at Hope is 7 feet.						
<b>NYZ042</b>			<b>Warren</b>						
	<b>31</b>	<b>0800EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
		<b>2359EST</b>							
			Rapid snowmelt during the end of March caused flooding along the Schroon River in Warren County. During the initial stages of flooding the flood waters were confined to low land areas near the river. The Schroon River continued to flood until April 6. See the April Storm Data Report for further details and damage amounts.						

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## NEW YORK, North

**NYZ026>031-034>035 Northern St. Lawrence - Northern Franklin - Northeast Clinton - Southern St. Lawrence - Southern Franklin - Southwest Clinton - Western Essex - Eastern Essex**

14	0800EST				0	0			Light Snow
15	0200EST								

An area of low pressure moved across northern New York Saturday (March 14) and then into northern New England. The system continued east and moved into the Canadian maritimes Sunday (March 15). A complex pattern of snowfall resulted with accumulations of generally 3 to 6 inches across northern New York.

**NYZ026>031-034>035 Northern St. Lawrence - Northern Franklin - Northeast Clinton - Southern St. Lawrence - Southern Franklin - Southwest Clinton - Western Essex - Eastern Essex**

21	1000EST				0	0	50K		Heavy Snow
22	1400EST								

A storm system along the Virginia coast on Saturday (March 21) moved slowly northeast into the Gulf of Maine late Sunday and Sunday night (March 22). Snow was heavy Saturday night into Sunday morning with a number of traffic accidents reported and brief power outages. The snow tapered off to snow showers Sunday night. Snow accumulations were generally 8 to 18 inches across northern New York. The following are a few snow accumulations from across the area:

Ellenburg Depot	(Clinton county).....	18.0 inches
South Colton	(St. Lawrence county).....	14.0 inches
Malone	(Franklin county).....	12.0 inches
Ray Brook	(Essex county).....	9.0 inches.

### **Clinton County Countywide**

28	1550EST				0	0	250K		Flood
31	2359EST								

Unseasonably warm weather resulted in dramatic snowmelt with rapid rises on rivers the last few days of March. In addition, showers and thunderstorms with heavy downpours moved across the area on the 30th aggravating the flooding. Among the streams and rivers flooding were the Great Chazy which began flooding at 350 pm est Saturday March 28 and the Saranac River which began flooding at 8 AM Sunday March 29th. These rivers continued to exceed flood stage through the end of the month with road closures. By March 30th, road washouts were especially severe in the towns of Chazy, Altona, Champlain, Mooers and Ellenburg. By late Sunday (March 29), a state of emergency was declared in the county especially for the towns of Ellenburg and Champlain.

### **Essex County Countywide**

30	2330EST				0	0	10K		Flood
31	0500EST								

Unseasonably warm weather resulted in dramatic snowmelt with rapid rises on rivers the last few days of March. In addition, showers and thunderstorms with heavy downpours moved across the area on the 30th enhancing the runoff into area rivers. The Ausable River experienced minor flooding between Jay and Au Sable Forks.

### **St. Lawrence County Countywide**

31	0300EST				0	0	10K		Flood
	2359EST								

Unseasonably warm weather resulted in dramatic snowmelt with rapid rises on some rivers the last few days of March. In addition, showers and thunderstorms with heavy downpours moved across the area on the 30th enhancing the rises in rivers. Among the streams and rivers flooding were the Oswegatchie and Raquette. These rivers continued to exceed flood stage through the end of the month with extensive field flooding and some road closures.

### **Franklin County Countywide**

31	0300EST				0	0	10K		Flood
	2359EST								

Unseasonably warm weather resulted in dramatic snowmelt with rapid rises on rivers the last few days of March. In addition, showers and thunderstorms with heavy downpours moved across the area on the 30th enhancing the runoff into streams and rivers. The Salmon River, among others, experienced flooding from early on the 31st through the end of the month. This resulted in local road closures.

## NEW YORK, West

**NYZ010-012-019>020 Erie - Wyoming - Chautauqua - Cattaraugus**

14	1733EST				0	0	50K		Heavy Snow
15	0200EST								

Cold air crossing the warmer waters of Lake Erie produced lake effect snow squalls. The heavy snow resulted in slick roadways and numerous accidents. One chain-reaction accident, involving over 30 cars, forced the closing of the Skyway in downtown Buffalo for about 90 minutes. Snowfall amounts included: 6" at the Buffalo Airport; 7" in Jamestown; 8" in Ellicottville; 10" in Arcade and South Dayton; and 12" in Perrysburg.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of		Estimated		Character of Storm
					Killed	Injured	Property	Crops	

## NEW YORK, West

**NYZ001>008-010>014-019>021**     **Niagara - Orleans - Monroe - Wayne - Northern Cayuga - Oswego - Jefferson - Lewis - Erie - Genesee - Wyoming - Livingston - Ontario - Chautauqua - Cattaraugus - Allegany**

21	0950EST					0	0	280K	Heavy Snow
22	0615EST								

Deep low pressure tracked from Kentucky to New England and brought heavy snow to the entire region. The storm began as a period of freezing rain and sleet Friday evening the 20th and changed over to snow early Saturday morning. The heaviest snow from the storm fell over the northern counties from the Buffalo-Niagara Falls area to Rochester and Oswego county. It was the largest snowfall of the entire winter season in the Buffalo metro area. The snow made roadways extremely slick and innumerable accidents resulted. The heavy ice and snow on power lines and trees resulted in scattered power outages throughout the area. Specific snowfall reports included: 16" in Colden; 13" in Fulton, Warsaw, Grand Island, and Niagara Falls; 12" in Rochester and Buffalo; 11" in Perrysburg, Victor and Fair Haven; 10" in Albion, Angelica, Newark and Montague; and 8" in Mount Morris and Watertown.

**NYZ001>008-010>014**     **Niagara - Orleans - Monroe - Wayne - Northern Cayuga - Oswego - Jefferson - Lewis - Erie - Genesee - Wyoming - Livingston - Ontario**

28	1548EST					0	0	380K	High Wind (G62)
	1901EST								

A fast moving squall line crossed the area during the afternoon hours. Winds, gusting over 70 mph, downed numerous trees and wires. Power outages were reported throughout the area. In Alabama, Genesee county, a camping trailer was overturned by the squall. Minor structural damage (i.e. siding torn off and roof shingles blown away) was also reported.

**NYZ007>008**     **Jefferson - Lewis**

30	0735EST					0	0	50K	Flood
31	2300EST								

Unseasonably warm weather resulted in rapid melt of the snowpack on the Tug Hill plateau. The snowmelt combined with additional rainfall caused the Black River to rise over its banks and exceed flood stage at Watertown. Lowland flooding occurred both at Carhage and Castorland. The river remained above flood stage at Watertown through the first week of April.

## NORTH CAROLINA, Central

**Wayne County**

7 NE Goldsboro to 8 NE Goldsboro	08	1710EST 1715EST	1	50	0	0	100K	Tornado (F2)
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A tornado touched down in the Musgrave community about 7 miles northeast of Goldsboro. The tornado reached a maximum strength of F2 as it destroyed a chicken house, a brick outbuilding, and a tobacco barn halfway between Eureka and Patetown. A trailer was heavily damaged by flying projectiles (wood) from the tobacco barn. The wood flew completely through the trailers front wall and logged in the back wall.

**Johnston County**

Selma	09	0150EST 0330EST			0	0		Flash Flood
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**Wake County**

Raleigh	09	0150EST 0330EST			0	0		Flash Flood
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Thunderstorms produced very heavy rain across most of eastern and central Wake county and most of Johnston county. County Emergency Management personnel reported numerous streams and creeks came out of their banks in both counties. The most flooding in Wake county was around the south side of Raleigh where several roads had to be closed. In Johnston county, flooding was reported from many locations including Selma and Clayton. Several rural roads were closed. Rainfall amounts of 1 to 1.5 inches occurred in less than an hour.

**Sampson County**

5 E Salemburg to 5.5 E Salemburg	09	0155EST 0205EST			0	3	90K	Thunderstorm Wind (G50)
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A thunderstorm produced a pair of microbursts 5 miles east of Salemburg in Sampson county. On Bearskin Road, a double-wide trailer was rolled over and off the foundation. The trailer was completely destroyed. Other trailers in the same area, one just a few hundred feet from the destroyed one, were left undamaged. Another microburst was noted about a half-mile east of the first one. The microburst rolled another unsecured manufactured home on Five Bridges Road. Several pine trees were snapped off but most trees in the area sustained little damage.

**Johnston County**

Smithfield	09	0245EST			0	0		Thunderstorm Wind (G50)
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Several trees were uprooted and snapped off in Smithfield. The damage was associated with strong thunderstorm winds.

**Halifax County**

Weldon	09	0330EST			0	0		Thunderstorm Wind (G50)
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Several trees were blown down in the Weldon city limits. This event was reported by the County Emergency Manager.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>NORTH CAROLINA, Central</u></b>									
<b>Montgomery County</b> Mt Gilead	19	0200EST 0500EST			0	0			Flash Flood
<b>Chatham County</b> Moncure	19	0300EST 0500EST			0	0			Flash Flood
<b>Moore County</b> Robbins	19	0300EST 0530EST			0	0			Flash Flood
<b>Randolph County</b> Sophia	19	0300EST 0600EST			0	0			Flash Flood
<b>Durham County</b> Durham	19	0400EST 0900EST			0	0			Flash Flood
<b>Orange County</b> Chapel Hill	19	0400EST 1000EST			0	0			Flash Flood
<b>Wake County</b> Raleigh	19	0400EST 0650EST			0	0			Flash Flood
<b>Granville County</b> Oxford	19	0700EST 0930EST			0	0			Flash Flood
<b>Vance County</b> Bear Pond	19	0700EST 1000EST			0	0			Flash Flood
<b>Warren County</b> Warrenton	19	0800EST 1000EST			0	0			Flash Flood
<p>A slow moving cold front became stationary over central North Carolina during the early morning hours of the 19th. Heavy rain developed near the frontal boundary and moved slowly across Montgomery, Moore, and Randolph counties then into areas from Siler City and Raleigh northeast to Durham, Chapel Hill, Oxford, Henderson, and Warrenton.</p> <p>Numerous roads had to be closed in Chatham, Wake, Durham, and Vance counties. Rainfall amounts up to 4 inches fell on already saturated ground.</p>									
<b>Forsyth County</b> Pfaftown	20	1436EST			0	0			Hail (1.00)
<b>Forsyth County</b> Winston Salem	20	1520EST			0	0			Hail (1.00)
<p>Quarter size hail fell in downtown Winston-Salem, reported by NWS spotter.</p>									
<b>Davidson County</b> Denton	20	1550EST			0	0			Hail (0.75)
<b>Person County</b> Roxboro	20	1600EST			0	0			Hail (2.00)
<p>A Skywarn Spotter observed silver dollar size hail in the city of Roxboro.</p>									
<b>Randolph County</b> Archdale to Sophia	20	1605EST 1612EST			0	0			Hail (0.88)
<p>Nickel size hail fell in Archdale and a few minutes later, dime size hail was reported in Sophia.</p>									
<b>Alamance County</b> Burlington	20	1700EST			0	0			Hail (0.75)
<p>A Skywarn Spotter observed dime size hail on Coy Street in Burlington.</p>									
<b>Person County</b> Hesters Store	20	1730EST			0	0			Hail (1.75)
<p>Golfball size hail reported in Hester's Store community by a local sheriff.</p>									
<b>Randolph County</b> 8 S Asheboro	20	1740EST 1755EST			0	0			Hail (0.75)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>NORTH CAROLINA, Central</b>									
									Dime size hail accumulated to nearly 3 inches deep on the ground at a rural location 8 miles south of Asheboro in south-central Randolph county. This report received by Randolph 911.
<b>Orange County Hillsborough</b>	20	1804EST			0	0			<b>Hail (0.75)</b>
									Dime size hail occurred according to Skywarn Observers about 1 mile east of Hillsborough on I-85.
<b>Wake County 1 SSE Holly Spgs</b>	20	1815EST	0.1	25	0	0			<b>Tornado (F0)</b>
									A home video of this storm showed a wall cloud with several small vortices. One of these touched down very briefly and damaged the roof of one home. The adjacent homes, and there were many, were untouched. The insulation from the home was then spread into adjacent trees.
<b>Wake County Garner</b>	20	1840EST 1842EST	1.5	100	0	2	650K		<b>Tornado (F2)</b>
									The tornado remained a funnel as it roared over the Greenbrier Estates just east of US401. Trees were sporadically uprooted and snapped off. Several trees fell on homes and outbuildings. The tornado touched down on Highway 70 at a church. The roof of one section was taken off and the steeple was blown off the chapel. The debris from the church took out windows at a car lot across the street. A block way, the wind removed several large siding sheets from a business.
<b>Wake County Raleigh</b>	20	1845EST	0.2	25	0	0	15K		<b>Tornado (F0)</b>
									The storm that hit Garner produced another tornado 6 miles to the northeast on the east side of Raleigh. Damage began just off US64 at Wake Medical Center and the Tower Shopping Center. Cars were overturned, trees were damaged, and a steel-beamed billboard was twisted. The tornado then crossed the highway where it lifted the roof off the business office of a tree nursery, damaged two sheds, and destroyed 5 greenhouses. Insulation and debris was strewn up in the trees well away from the path.
<b>Durham County Durham</b>	20	1820EST			0	0			<b>Hail (0.75)</b>
									Dime hail was reported on 15-501 in the city of Durham by 911.
<b>Wake County Cary to Raleigh</b>	20	1825EST 1830EST			0	0			<b>Hail (0.75)</b>
									Dime size hail was reported by National Weather Service Employees at Waverly Place in Cary and at a Raleigh residence near Gorman Street and the Beltline.
<b>Alamance County Snow Camp</b>	20	1830EST			0	0			<b>Hail (1.75)</b>
									Golfball size hail occurred at Snow Camp in southern Alamance county as reported by a fireman.
<b>Durham County 5 NE Bahama to 7.5 NE Bahama</b>	20	1830EST 1832EST	2.5	100	0	1	600K		<b>Tornado (F2)</b>
									A tornado first touched down in rural northeast Durham county off Bahama Road. The tornado moved northeast and took the roof off a manufactured home on a brick foundation. One minor injury occurred in the home. Down the road a half mile on Range Road, the tornado damaged farm sheds and sent sheets of tin flying in all directions. The tornado then hit a frame house with only minor roof damage. A large oak tree, without leaves, was snapped off at the base. Just 100 yards away, the tornado hit a manufactured home and reduced it to just splinters and rubble. The tornado picked up the home, turned it 90 degrees, and slammed it into the ground. The entire structure was then sheared off at the base and spread into the adjacent field and woods. Thankfully, no one was home at the time. This tornado reached its maximum intensity (F2) at this point. Minor damage occurred down the road to some businesses and houses and the storm lifted before reaching the Person county line.
									Home damage was estimated by Emergency Management to be nearly \$450K and damage to businesses was nearly \$150K.
<b>Chatham County Silk Hope to Siler City</b>	20	1845EST			0	0			<b>Hail (0.75)</b>
									Dime sized hail was reported in Silk Hope and Siler City per Chatham 911.
<b>Chatham County Siler City</b>	20	1845EST			0	0	15K		<b>Thunderstorm Wind (G50)</b>
									Strong thunderstorm winds destroyed an outbuilding and wrapped a small flatbed trailer around a tree.
<b>Wake County Raleigh</b>	20	1846EST			0	0			<b>Hail (1.00)</b>
									Quarter size hail was reported by a Skywarn Observer at Mini City in northeast Raleigh.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## **NORTH CAROLINA, Central**

<b>Granville County</b> Berea	20	1855EST 1857EST	1.5	100	0	0	100K		<b>Tornado (F2)</b>
<p>This tornado occurred with the same parent thunderstorm that produced a tornado earlier in northeast Durham county. The tornado touched down in Berea on Highway 158. A brick ranch home sustained significant damage to the roof and garage. The next damage appeared 1 mile to the northeast on Hebron Road (State Road 1150). The tornado destroyed several barns on both sides of NC-1150, uprooted several trees, and destroyed the roof of a farm house. The tornado reached F2 at this point. The debris from the home and barns was strewn across fields and treetops. The tornado then moved over a wooded area, snapping trees and finally reaching NC-1306, where it produced F0 damage to outbuildings and a farm house.</p>									
<b>Granville County</b> Stovall	20	1858EST			0	0			<b>Hail (0.75)</b>
<p>Dime size hail fell in Stovall on Highway 15.</p>									
<b>Franklin County</b> Louisburg	20	1921EST			0	0			<b>Hail (2.00)</b>
<p>Silver Dollar size hail occurred 5 to 7 miles south of Louisburg on Highway 401.</p>									
<b>Durham County</b> Bahama	20	1930EST			0	0			<b>Hail (0.75)</b>
<p>The Durham county sheriff's department reported dime sized hail in Bahama.</p>									
<b>Franklin County</b> 9 E Louisburg	20	1935EST	0.1	50	0	0	50K		<b>Tornado (F1)</b>
<p>The same thunderstorm complex that produced tornadoes in Wake county produced yet another small tornado just east of Louisburg on Hwy 158. Six houses sustained minor damage and one mobile home received major damage. Numerous trees were uprooted and snapped in the area.</p>									
<b>Person County</b> Moriah	20	1940EST			0	0			<b>Hail (0.75)</b>
<b>Chatham County</b> Bennett to Siler City	20	1945EST			0	0			<b>Hail (1.00)</b>
<b>Chatham County</b> Pittsboro	20	2000EST			0	0			<b>Hail (0.75)</b>
<p>0.75 to 1.00 inch hail was reported between Bennett and Siler City in western Chatham county at 1945 and 0.75 inch hail was reported 4 miles north of Pittsboro 15 minutes later.</p>									
<b>Sampson County</b> Taylors Bridge	20	2000EST 2230EST			0	0	50K		<b>Thunderstorm Wind (G50)</b>
<p>Two turkey houses and one manufactured home were damaged on Union School Road near the community of Taylors Bridge.</p>									
<b>Orange County</b> Chapel Hill	20	2006EST			0	0			<b>Hail (0.75)</b>
<p>Dime sized hail was reported by Skywarn on Highway 15-501 at Smith Level Road.</p>									
<b>Hoke County</b> Raeford	20	2015EST			0	0			<b>Hail (1.00)</b>
<p>Hoke county 911 reported 1.00 inch hail near Raeford on Turnpike and Gainey Roads.</p>									
<b>Durham County</b> Durham	20	2030EST			0	0			<b>Hail (1.00)</b>
<p>Durham Emergency Management reported quarter sized hail near the Durham and Orange county line on I-85.</p>									
<b>Scotland County</b> Wagram	20	2045EST			0	0			<b>Hail (0.75)</b>
<p>Dime hail was reported by Emergency Management Officials in Wagram.</p>									
<b>Harnett County</b> Lillington	20	2110EST			0	0			<b>Hail (1.75)</b>
<p>Golfball sized hail occurred in Lillington as reported by Harnett 911.</p>									
<b>Cumberland County</b> Fayetteville	20	2118EST			0	0			<b>Hail (1.25)</b>
<p>Quarter sized hail was reported at Cedar Creek in Fayetteville.</p>									
<b>Orange County</b> Hillsborough	20	2122EST			0	0			<b>Hail (1.75)</b>

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## NORTH CAROLINA, Central

Golfball sized hail fell in Hillsborough reported by Skywarn Observer.

### **Vance County**

<b>Henderson</b>	20	2145EST			0	0			<b>Hail (0.75)</b>
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Dime sized hail in Henderson reported by Skywarn Observer.

### **Durham County**

<b>Durham</b>	20	2145EST			0	0			<b>Hail (1.00)</b>
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Quarter sized hail fell 2 miles north of Northern Durham High School reported by a Raleigh Skywarn Spotter.

### **Wake County**

<b>Zebulon</b>	20	2200EST			0	0			<b>Hail (0.75)</b>
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Dime sized hail fell in the town of Zebulon in eastern Wake county, reported by Wake county sheriff.

### **Edgecombe County**

<b>Princeville</b>	20	2250EST			0	0	15K		<b>Thunderstorm Wind (G50)</b>
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A manufactured home sustained major damage due to strong thunderstorm winds.

## NORTH CAROLINA, Central Coastal

### **NCZ093-095-098**

**Craven - Carteret - Onslow**

02	1130EST			0	0			<b>Ice Pellets</b>
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1200EST

A brief shower of ice pellets fell across coastal regions covering the ground in some areas in Onslow county.

### **Duplin County**

<b>Wallace</b>	09	0350EST			0	0			<b>Thunderstorm Wind (G52)</b>
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### **Lenoir County**

10 W Kinston	09	0435EST			0	0			<b>Thunderstorm Wind (G52)</b>
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### **Pitt County**

<b>Greenville</b>	09	0500EST			0	0			<b>Thunderstorm Wind (G50)</b>
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A squall line passing through eastern North Carolina produced wind gusts to 60 mph in several locations. Trees were reported down across highways in Wallace.

### **NCZ029-044>047-**

**Martin - Pitt - Washington - Tyrrell - Western Dare - Greene - Beaufort - Western Hyde - Duplin - Lenoir -**

### **079>081-090>095-098-**

**Jones - Craven - Pamlico - Carteret - Onslow - Eastern Dare - Eastern Hyde**

### **103>104**

11	2300EST			0	0	350K		<b>Extreme Cold</b>
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14 2300EST

Damage to strawberry and peach crops caused by several nights with low temperatures in the lower 20s. Some farmers reported 50 to 64 percent of their peach crop was killed.

### **Pitt County**

3 W Greenville	20	2258EST			0	0			<b>Hail (0.75)</b>
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### **Tyrrell County**

<b>Columbia</b>	21	0040EST			0	0			<b>Hail (1.00)</b>
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911 reported extensive dime to quarter size hail in Columbia.

## NORTH CAROLINA, Extreme Southwest

NONE REPORTED.

## NORTH CAROLINA, North Coastal

### **Currituck County**

<b>Corolla</b>	21	0100EST			0	0			<b>Hail (1.75)</b>
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## NORTH CAROLINA, Northwest and North Central

### **Ashe County**

Countywide	20	0730EST 0750EST			0	0	0		<b>Thunderstorm Wind</b>
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### **Ashe County**

1 NE Nathans Creek	20	0750EST 1200EST			0	0			<b>Flash Flood</b>
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### **Alleghany County**

3 S Sparta	20	0915EST 1145EST			0	0			<b>Flash Flood</b>
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### **Alleghany County**

1 S Cherry Lane	20	0930EST 1130EST			0	0			<b>Flash Flood</b>
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# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## NORTH CAROLINA, Northwest and North Central

<b>Watauga County</b> <b>Boone</b>	<b>20</b>	<b>1100EST</b> <b>1300EST</b>			<b>0</b>	<b>0</b>	<b>50K</b>	<b>Flash Flood</b>
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<b>Watauga County</b> <b>Boone</b>	<b>20</b>	<b>1125EST</b>			<b>0</b>	<b>0</b>	<b>5K</b>	<b>Lightning</b>
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Thunderstorms during the morning hours on the 20th produced damaging winds, damaging lightning, and flash flooding.

Heavy rainfall resulted in the flooding of Nathans Creek about 1 mile northeast of Nathans Creek in eastern Ashe County.

A creek in Boone was flooded with numerous cars submerged in up to five feet of water at a nearby shopping mall. One person had to be rescued from the top of a vehicle. In addition, the South Fork of the New River near Boone was out of its banks.

In Alleghany County, Brush Creek was out of its bank about 1 mile south of Cherry Lane and Piney Swamp Creek flooded Piney Swamp Road about 3 miles south of Sparta.

Thunderstorm winds knocked down numerous trees throughout Ashe County.

Lightning damaged a house in Boone.

<b>Stokes County</b> <b>Walnut Cove</b>	<b>20</b>	<b>1458EST</b>			<b>0</b>	<b>0</b>		<b>Hail (0.75)</b>
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<b>Stokes County</b> <b>Pine Hall to</b> <b>1.5 NNE Pine Hall</b>	<b>20</b>	<b>1514EST</b> <b>1517EST</b>	<b>1.5</b>	<b>30</b>	<b>0</b>	<b>3</b>	<b>100K</b>	<b>Tornado (F1)</b>
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<b>Rockingham County</b> <b>1 SW Mayodan to</b> <b>3 NW Eden</b>	<b>20</b>	<b>1525EST</b> <b>1549EST</b>	<b>12</b>	<b>300</b>	<b>2</b>	<b>27</b>	<b>34M</b>	<b>Tornado (F3)</b>
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M80PH, F24VE

<b>Rockingham County</b> <b>3 NW Eden to</b> <b>3 N Eden</b>	<b>20</b>	<b>1549EST</b> <b>1554EST</b>			<b>0</b>	<b>0</b>	<b>20K</b>	<b>Thunderstorm Wind</b>
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<b>Rockingham County</b> <b>Madison</b>	<b>20</b>	<b>1555EST</b>			<b>0</b>	<b>0</b>		<b>Hail (0.95)</b>
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<b>Rockingham County</b> <b>Eden</b>	<b>20</b>	<b>1610EST</b>			<b>0</b>	<b>0</b>		<b>Hail (0.88)</b>
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<b>Rockingham County</b> <b>1 E Eden</b>	<b>20</b>	<b>1630EST</b>			<b>0</b>	<b>0</b>		<b>Hail (1.75)</b>
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<b>Caswell County</b> <b>Prospect Hill</b>	<b>20</b>	<b>1709EST</b>			<b>0</b>	<b>0</b>		<b>Hail (1.25)</b>
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<b>Caswell County</b> <b>Leasburg</b>	<b>20</b>	<b>1720EST</b>			<b>0</b>	<b>0</b>	<b>5K</b>	<b>Hail (1.25)</b>
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<b>Rockingham County</b> <b>Ruffin</b>	<b>20</b>	<b>1842EST</b>			<b>0</b>	<b>0</b>		<b>Hail (0.88)</b>
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Severe thunderstorms during the afternoon hours on the 20th produced two tornadoes, damaging winds and hail to golf ball size.

A supercell thunderstorm produced two tornadoes in North Carolina and a third one just over the Virginia border. The first tornado developed near Pine Hall in Stokes County around 3:14 PM EST and traveled northeast about 1.5 miles before dissipating around 3:17 PM EST. This small F1 tornado broke out windows, lifted a car off the ground, tore the roof off a house, damaged several mobile homes and toppled trees.

The second tornado developed one mile southwest of Mayodan around 3:25 PM EST and traveled to the northeast about 12 miles before dissipating about three miles northwest of Eden around 3:49 PM EST. This rather large F3 tornado damaged or destroyed 500 to 600 residences and damaged or destroyed nearly all businesses in Stoneville and some businesses in Mayodan. This tornado tossed a truck 60 feet, carried a cinder block and an empty boat trailer about a quarter mile and pushed a 25,000 pound fire truck about 60 feet. The tornado knocked out a 300 foot section of a wall and severely damaged the roof from a large building in Mayodan. Damage to this building was estimated at 25 million dollars. The tornado was generally 100 to 400 yards wide, but in one place was around 800 yards wide. Two people lost their lives and officially 27 were injured. The fatalities included an 80 year old man who was pulled from his house southwest of Stoneville and tossed 500 feet in the air and a 24 year old woman who was in her car in Stoneville when the tornado hit. The tornado tossed her car into a building and then the wall of the building collapsed on the car. There were likely another 10 to 20 injuries that were unreported as people drove themselves to the hospital or were driven by

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## NORTH CAROLINA, Northwest and North Central

friends. Cancelled checks and papers from Stoneville were found 53 miles north-northeast in Huddleston, Virginia. In addition, material from Mayodan and Stoneville were found at several locations around Martinsville, Virginia.

After the tornado lifted three miles northwest of Eden, non-tornadic wind damage continued to the Virginia State line. Thunderstorm winds knocked down trees, damaged outbuildings and barns and tore shingles from some roofs.

Hail up to half dollar size broke out car windows in Leasburg.

## NORTH CAROLINA, South Coastal

**Robeson County**  
1 E Lumberton

08 1438EST 0.3 30 0 0 10K Tornado (F0)  
1441EST

POLICE REPORTED TORNADO TOUCH DOWN ON BROAD RIDGE RD, WHICH DAMAGED BARNs AND DOWNED TREES.

**Robeson County**  
3 SE Lumberton to  
5 SE Lumberton

08 1503EST 2 30 0 3 100K Tornado (F1)  
1510EST

SHERIFF REPORTED 3 MOBILE HOMES DESTROYED, OUT BUILDINGS DAMAGED, TREES DOWNED ALONG RICE AND QUINCY ROADS. DAMAGE PATH WAS SPOTTY.

**Columbus County**  
3 S Cerro Gordo to  
2.7 S Cerro Gordo

08 1610EST 0.3 30 0 0 20K Tornado (F0)

A TORNADO SNAPPED A LINE OF TREE TOPS AND DAMAGED ROOFING, BARNs AND UTILITY SHEDs. HEAVY RAIN OCCURRED WITH THE STORM, FLOODING DITCHES.

**Columbus County**  
Nakina

09 0250EST 0 0 10K Thunderstorm Wind (G75)

DAMAGED ROOFs, TREES SNAPPED, AND CAR AND TRUCK WINDOWS DAMAGED IN THE MANLY SMITH ROAD AND HAPPY HOME CHURCH AREAs.

**Brunswick County**  
Ash

09 0305EST 0 0 Thunderstorm Wind (G65)

SHERIFF REPORTED TREES DOWNED.

**Brunswick County**  
Caswell Beach

09 0324EST 0 0 Thunderstorm Wind (G60)

OAK ISLAND COAST GUARD STATION REPORTED 67 MPH THUNDERSTORM GUST.

**Pender County**  
Watha to  
Burgaw

09 0342EST 0 0 5K Thunderstorm Wind (G64)  
0355EST

WIND GUST REPORTED BY HAM RADIO SKYWARN IN WATHA, AND A TREE SNAPPED IN BURGAW DAMAGED A TRUCK.

**New Hanover County**  
Castle Hayne to  
Wrightsville Beach

09 0345EST 0 0 5K Thunderstorm Wind (G60)  
0353EST

THUNDERSTORM WIND SNAPPED TREES, DOWNED POWER LINES AND DAMAGED A ROOF.

**Robeson County**  
Maxton

20 1742EST 0 0 2K Thunderstorm Wind (G60)

SHERIFF REPORTED ROOF DAMAGE TO MOBILE HOME ON HIGHWAY 1310.

**Robeson County**  
Fairmont

20 2040EST 0 0 Hail (1.00)

**Robeson County**  
Proctorville

20 2045EST 0.5 30 0 1 20K Tornado (F1)

A TORNADO AT POPE ROAD PUSHED A MOBILE HOME 4 FEET OFF ITS FOUNDATION AND SNAPPED A TREE ONTO A HOUSE. A WOMAN WAS HOSPITALIZED FOR MINOR INJURIES. HAIL SIZE 1.25 INCH ALSO REPORTED.

**Bladen County**  
Bladenboro

20 2112EST 0 0 Hail (0.75)  
2115EST

SPOTTER ALSO REPORTED INTENSE LIGHTNING.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<b>NORTH CAROLINA, Southwest</b>									
<b>NCZ033-048&gt;052-058&gt;059-062&gt;064</b>			<b>Avery - Madison - Yancey - Mitchell - Swain - Haywood - Graham - Northern Jackson - Macon - Southern Jackson - Transylvania</b>						
	02	0000EST 1200EST			0	0			Snow
			A weak trough of low pressure lingered over western North Carolina on the 2nd of March and temperatures were just cold enough to support a 1 to 3 inch snowfall...which occurred at mainly the higher elevations.						
<b>NCZ033-053-058</b>			<b>Avery - Buncombe - Graham</b>						
	03	0000EST 1000EST			0	0			Snow
			Moisture trapped in a broad cyclonic flow across the eastern U.S. combined with temperatures hovering around the freezing mark to produce another light snowfall of 1 to 3 inches. Again, mainly at high elevations.						
<b>NCZ033</b>			<b>Avery</b>						
	10	0400EST 1200EST			0	0			Snow
			High elevations such as Beech and Sugar Mountains received 2 to 3 inches of snow.						
<b>NCZ033-050&gt;052</b>			<b>Avery - Mitchell - Swain - Haywood</b>						
	10	1800EST			0	0			Snow
	11	0000EST							
<b>NCZ058</b>			<b>Graham</b>						
	10	1800EST			0	0			Heavy Snow
	11	0000EST							
			Moisture in a cold northwest flow resulted in up to 8 inches of snow across the northern end of Graham county during the evening. Lighter amounts between 1 and 2 inches fell in other parts of the mountains.						
<b>NCZ033-048&gt;050-052&gt;053-055-058&gt;059-062&gt;064</b>			<b>Avery - Madison - Yancey - Mitchell - Haywood - Buncombe - Burke - Graham - Northern Jackson - Macon - Southern Jackson - Transylvania</b>						
	11	1600EST			0	0			Snow
	12	0200EST							
<b>NCZ033-052-058</b>			<b>Avery - Haywood - Graham</b>						
	11	1800EST 2200EST			0	0			Heavy Snow
			Winter made one last charge into the mountains late on the 11th, as very cold and windy conditions accompanied a general 1 to 2 inch snowfall. A few counties received higher amounts, especially in Avery, Graham and Haywood counties where 4 to 6 inches of snow fell.						
<b>Buncombe County</b>									
Asheville to Weaverville	20	0925EST			0	0			Thunderstorm Wind (G50)
<b>Avery County</b>									
15 S Newland	20	0945EST			0	0			Hail (0.75)
<b>Caldwell County</b>									
West Portion	20	1030EST 1200EST			0	0			Flood
<b>Gaston County</b>									
Belmont	20	1340EST			0	0			Hail (0.75)
<b>Davie County</b>									
Farmington	20	1415EST			0	0			Hail (1.75)
<b>Mecklenburg County</b>									
5 S Charlotte	20	1427EST			0	0			Hail (0.88)
<b>Mecklenburg County</b>									
5 S Charlotte	20	1427EST			0	0			Thunderstorm Wind (G50)
<b>Mecklenburg County</b>									
Mint Hill	20	1442EST			0	0			Hail (2.00)
<b>Mecklenburg County</b>									
Mint Hill	20	1442EST	0.1	25	0	0			Tornado (F0)
<b>Davie County</b>									
Cooleemee	20	1445EST			0	0			Hail (0.75)
<b>Cabarrus County</b>									
4 SSE Harrisburg	20	1500EST			0	0			Hail (1.00)





# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	
<b>OHIO, North</b>									
<b>OHZ009&gt;014-019&gt;023-028&gt;033-038</b>			<b>Erie - Lorain - Cuyahoga - Lake - Geauga - Ashtabula - Huron - Medina - Summit - Portage - Trumbull - Crawford - Richland - Ashland - Wayne - Stark - Mahoning - Holmes</b>						
	28	0930EST 1550EST			0	0	305K		High Wind
			Strong winds with gusts over 50 miles per hour downed trees and power lines, some landing on vehicles and houses. One tree fell on a house in Ashland (Ashland County); one on a house in Willoughby (Lake); and the roof was blown off a mobile home near Smithville Western Rd. in Wayne Township (Wayne).						
<b>Ottawa County</b>									
<b>Elmore</b>	28	1200EST 1230EST			0	0	5K		Thunderstorm Wind
			Numerous large limbs were downed.						
<b>Sandusky County</b>									
<b>Green Spgs</b>	28	1230EST 1300EST			0	0	15K		Thunderstorm Wind
			Power poles and power lines were downed in Green Springs. Large limbs were downed in Lindsey.						
<b>Seneca County</b>									
<b>Tiffin</b>	28	1300EST 1330EST			0	0	10K		Thunderstorm Wind
			Trees were downed.						
<b>Huron County</b>									
<b>Countywide</b>	28	1310EST 1330EST			0	0	20K		Thunderstorm Wind
			Trees and power poles were downed.						
<b>Erie County</b>									
<b>Castalia</b>	28	1330EST 1400EST			0	0	20K		Thunderstorm Wind
			Telephone and power poles were downed.						
<b>OHIO, Northwest</b>									
<b>Defiance County</b>									
<b>Hicksville</b>	28	1046EST			0	0	3K		Thunderstorm Wind
			trees blown down and shed destroyed in Hicksville.						
<b>Henry County</b>									
<b>Liberty Center</b>	28	1117EST			0	0	0.50K		Thunderstorm Wind
			trees blown down in town.						
<b>Henry County</b>									
<b>Holgate</b>	28	1127EST			0	0			Thunderstorm Wind (G53)
			trees blown down in town.						
<b>Fulton County</b>									
<b>Archbold</b>	28	1130EST			0	0	1K		Thunderstorm Wind
			trees and power lines down.						
<b>OHIO, Southeast</b>									
<b>OHZ066&gt;067-075&gt;076-083&gt;087</b>									
			<b>Perry - Morgan - Athens - Washington - Jackson - Vinton - Meigs - Gallia - Lawrence</b>						
	10	0600EST			0	0			Cold
	13	0900EST							
			The coldest weather of the winter was delayed until March for southeast Ohio. High temperatures were only in the 20s. Morning low readings of 10 to 15 degrees were common.						
<b>OHZ066&gt;067-075&gt;076-083&gt;087</b>									
			<b>Perry - Morgan - Athens - Washington - Jackson - Vinton - Meigs - Gallia - Lawrence</b>						
	26	1200EST			0	0			Record Warmth
	31	2100EST							
			An unusually long stretch of early spring heat lasted 6 consecutive days. Afternoon temperatures were in the 80s.						
<b>OHIO, Southwest</b>									
<b>Paulding County</b>									
<b>Antwerp</b>	28	1040EST			0	0	3K		Thunderstorm Wind (G50)
			Several trees downed.						

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>OKLAHOMA, Eastern</b>									
<b>Tulsa County</b> (Tul)Tulsa Intl Arpt	01 31	0001CST 2359CST			0	0			<b>Heavy Rain</b>
			March rainfall at the Tulsa International Airport totaled 7.34 inches, making this the third wettest March on record. The only two wetter Marches were in 1973 and 1922 with 11.94 and 8.31 inches respectively.						
<b>Tulsa County</b> Bixby	07	0730CST			0	0			<b>Hail (0.75)</b>
<b>Latimer County</b> Wilburton	07	1140CST			0	0	0.50K		<b>Thunderstorm Wind</b>
			Tree limbs down on power lines						
<b>Mayes County</b> Countywide	07	1200CST 1600CST			0	0			<b>Flash Flood</b>
			City park, low-water bridges, and streets flooded around 1:45 pm.						
<b>Rogers County</b> Countywide	07	1200CST 1600CST			0	0			<b>Flash Flood</b>
			Low-water bridges flooded in Talala around 3:40 pm.						
<b>Tulsa County</b> Countywide	07	1200CST 1600CST			0	0			<b>Flash Flood</b>
			Road closed at Garnett and New Orleans from creek overflow around 3:30 pm.						
<b>Le Flore County</b> Poteau	07	1430CST			0	0	0.10K		<b>Thunderstorm Wind</b>
			3-inch tree limb downed by wind						
<b>Le Flore County</b> 4 E Cameron	07	1444CST			0	0			<b>Hail (0.75)</b>
<b>Sequoyah County</b> Sallisaw	07	1448CST			0	0			<b>Thunderstorm Wind (G51)</b>
			A powerful early spring storm system moved across Oklahoma during the day of March 7, producing a wide variety of weather across eastern Oklahoma. Heavy rains developed from Tulsa to Pryor during the morning, with widespread rainfall amounts of 2 to 3 inches. Flooding of even well-drained streets was common, and many low-water bridges were under water. Further southeast, severe thunderstorms developed over Sequoyah and Leflore Counties during the mid-afternoon before moving east into Arkansas.						
<b>Pittsburg County</b> 3 NE Mc Alester	19	0050CST			0	0	3K		<b>Thunderstorm Wind</b>
			Large radio tower blown over						
<b>Pushmataha County</b> 5 SW Clayton	19	0110CST			0	0	0.50K		<b>Thunderstorm Wind</b>
			Roof blown off of a barn						
<b>Le Flore County</b> 3 SE Talihina	19	0210CST			0	0			<b>Hail (0.75)</b>
<b>Le Flore County</b> 3 SE Talihina	19	0210CST			0	0			<b>Thunderstorm Wind (G51)</b>
<b>Sequoyah County</b> Muldrow	19	0235CST			0	0			<b>Hail (0.75)</b>
<b>Sequoyah County</b> Muldrow	19	0235CST			0	0	0.10K		<b>Thunderstorm Wind</b>
			Large tree limbs blown down.						
			Low pressure moved eastward across southern Oklahoma during the evening of March 18 and during the early morning of March 19. A broken line of severe thunderstorms developed over southeast Oklahoma just in advance of the low pressure system. The thunderstorms reached severe levels as they moved across Pittsburg and Pushmataha Counties between midnight and 1 AM. Then the storms weakened below severe limits as they travelled across Haskell and Latimer Counties between 1 and 2 AM. The storms strengthened again as they passed through Le Flore and Sequoyah Counties after 2 AM. The storms moved into Arkansas around 245 AM.						

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of		Estimated		Character of Storm
					Killed	Injured	Property	Crops	

## OKLAHOMA, Eastern

**OKZ049-053>076 Pushmataha - Choctaw - Osage - Washington - Nowata - Craig - Ottawa - Pawnee - Tulsa - Rogers - Mayes - Delaware - Creek - Okfuskee - Okmulgee - Wagoner - Cherokee - Adair - Muskogee - McIntosh - Sequoyah - Pittsburg - Haskell - Latimer - Le Flore**  
**27 0700CST 0 0 24.5K High Wind**  
**1300CST**

A powerful spring storm system moved quickly across the southern and central plains on March 27. High winds from the south developed across eastern Oklahoma during the morning in advance of, but not in direct association with, a band of showers. (The showers themselves were non-severe and did not even produce cloud-to-ground lightning until they moved east into Arkansas). For up to two hours in advance of the showers, widespread gradient winds were sustained above 30 miles an hour with frequent gusts over 45 miles an hour. Gusts of 50 to 60 miles an hour were not uncommon. One report of a 75 mph gust came in from Stilwell in Adair County. The Muskogee ASOS reported a peak wind gust of 51 mph, Bartlesville...48 mph, McAlester...46 mph, and Tulsa...43 mph.

At 820 am, a roof was blown off a barn 15 miles west of Welch in Craig County. At 855 am, a tree was blown down in west Tulsa at 42nd and Riverside. At 900 am, mobile homes were damaged and a billboard was blown down at Bearden in Okfuskee County. About the same time, the mesonet site at Okemah reported a wind gust of 50 miles an hour. Around 900 am, a steeple was blown off of a church in Sapulpa in Creek County. A house roof was damaged in Henryetta in Okmulgee County around 915 am. Later in the morning at 1150 am, power lines were blown down near Bernice in Delaware County, and a wood-frame carport was blown over at Grove.

Osage County Shidler	30	1500CST			0	0			Hail (0.75)
Osage County Pawhuska	30	1612CST			0	0			Hail (1.00)
Osage County Pawhuska	30	1620CST			0	0			Hail (1.00)
Creek County Sapulpa	30	1724CST			0	0			Hail (0.88)
Pittsburg County Canadian	30	1814CST			0	0			Hail (0.75)
McIntosh County 4 WNW Eufaula	30	1815CST			0	0			Thunderstorm Wind (G54)
62 mph tstm gust measured at Oklahoma mesonet site.									
Pittsburg County Indianola	30	1816CST			0	0			Hail (0.75)
Pittsburg County Canadian	30	1820CST			0	0			Hail (1.00)
McIntosh County Eufaula	30	1824CST			0	0			Thunderstorm Wind (G52)
Muskogee County 5 S Muskogee	30	1844CST			0	0			Thunderstorm Wind (G52)
Muskogee County Warner	30	1846CST			0	0			Hail (0.88)
Muskogee County 1 NE Warner	30	1855CST			0	0			Funnel Cloud
Muskogee County Keefeton	30	1900CST			0	0			Hail (0.88)
Pittsburg County Quinton	30	1900CST			0	0			Hail (1.00)
Pushmataha County Moyers	30	1900CST			0	0			Hail (1.00)
Haskell County Stigler	30	1910CST			0	0			Hail (1.00)
Cherokee County 8 S Tahlequah	30	1912CST			0	0			Hail (0.75)
Sequoyah County Vian	30	1920CST			0	0			Hail (0.88)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## OKLAHOMA, Eastern

<b>Cherokee County</b>									
Tahlequah	30	1928CST			0	0			Thunderstorm Wind (G52)
<b>Haskell County</b>									
Tamaha	30	1930CST			0	0			Hail (0.75)
<b>Pushmataha County</b>									
Clayton	30	1930CST			0	0			Hail (0.75)
<b>Sequoyah County</b>									
1 SW Sallisaw	30	1931CST			0	0			Thunderstorm Wind (G52)
Car blown off Interstate 40									
<b>Muskogee County</b>									
Braggs	30	1932CST			0	0			Hail (0.75)
<b>Muskogee County</b>									
Braggs	30	1932CST			0	0			Thunderstorm Wind (G61)
<b>Adair County</b>									
Proctor	30	1940CST			0	0			Thunderstorm Wind (G52)
<b>Sequoyah County</b>									
Gans	30	1950CST			0	0	0.10K		Thunderstorm Wind
Several large tree limbs down									
<b>Pushmataha County</b>									
Cloudy	30	2000CST			0	0			Hail (0.88)
<b>Ottawa County</b>									
3 SE Quapaw	30	2010CST			0	0			Thunderstorm Wind (G50)
Car blown off Will Rogers Turnpike									
<b>Le Flore County</b>									
Spiro	30	2016CST			0	0			Thunderstorm Wind (G52)
<b>Delaware County</b>									
8 ENE Grove	30	2020CST			0	0	0.50K		Thunderstorm Wind
Power pole snapped									
<b>Le Flore County</b>									
5 SW Wister	30	2025CST			0	0			Hail (0.75)
<b>Le Flore County</b>									
Wister	30	2045CST			0	0			Hail (0.88)

A wave of low pressure and a cold front moving across Oklahoma brought a solid line of thunderstorms to all of eastern Oklahoma on the afternoon and evening of March 30. While the line covered the entire north-south length of eastern Oklahoma, the vast majority of the severe weather remained to the south of Hwy. 412. Bow echo signatures appeared along the line in eastcentral Oklahoma. Rotation was indicated at the north end of the bow echo as it moved from near Eufaula to the Arkansas state line at West Siloam Springs. Quite a few reports of severe tstm winds and funnel clouds were common with this part of the line, but there were no known tornado touchdowns in Oklahoma.

## OKLAHOMA, Extreme Southeast

<b>Mccurtain County</b>									
Tom	05	1518CST			0	0			Hail (1.75)
Reports of golf ball size hail received from Idabel Sheriffs Office.									
<b>Mccurtain County</b>									
Tom	05	1524CST			0	0			Hail (0.75)
Report received from Skywarn spotter.									
<b>Mccurtain County</b>									
Tom	05	1533CST			0	0			Hail (1.75)
<b>Mccurtain County</b>									
Pickens	30	2025CST			0	0			Hail (0.75)

## OKLAHOMA, Panhandle

<b>OKZ001&gt;003</b>									
<b>Cimarron - Texas - Beaver</b>									
	07	1700CST			0	0			Blizzard
	08	0600CST							

A low pressure system in the upper levels of the atmosphere over the Texas South Plains along with very cold and moist air across the Oklahoma Panhandle produced blizzard conditions with sustained wind speeds of 35 mph to 40 mph and visibilities near zero. Snowfall amounts ranged from one to three inches across Beaver county to four to six inches across Texas and Cimarron counties. Roads and highways were closed during the blizzard Saturday night through Sunday morning.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## OKLAHOMA, Panhandle

**OKZ002**

**Texas**

**16 1200CST**  
**17 0000CST**

**0 0**

**Heavy Snow**

A low pressure system in the upper atmosphere which moved northeast into Oklahoma allowed for much colder and more moist air to push down into the central Oklahoma Panhandle. Snowfall totals across Texas county were in the four to six and a half inch range. Some major roads and highways in and around Guymon were closed.

**OKZ001>003**

**Cimarron - Texas - Beaver**

**18 2200CST**  
**19 1000CST**

**0 0**

**Heavy Snow**

A strong low pressure system in the upper atmosphere moved across the Texas and Oklahoma Panhandles ushering in much colder and more moist air into the Oklahoma Panhandle. Snowfall totals from this powerful storm system ranged from seven to nine inches across Beaver county to between eight and eleven inches across Texas and Cimarron counties. Several roads and highways in and around Guymon were closed due to the heavy snow.

**Texas County**

**1 W Hooker**

**26 2210CST**  
**2215CST**

**0 0**

**Thunderstorm Wind (G55)**

**Texas County**

**2 E Goodwell**

**26 2225CST**

**0 0**

**Thunderstorm Wind (G51)**

**Texas County**

**1 W Hooker**

**26 2245CST**

**0 0**

**Thunderstorm Wind (G50)**

Severe thunderstorms moving through the central Oklahoma Panhandle produce high winds as measured by the Oklahoma Mesonet.

**Beaver County**

**Beaver**

**29 2328CST**

**0 0**

**Hail (1.00)**

A severe thunderstorm produced large hail across the eastern Oklahoma Panhandle during the late evening hours.

## OKLAHOMA, Western, Central and Southeast

**Bryan County**

**1 SE Colbert**

**06 2055CST**

**0 0**

**Hail (0.75)**

**Bryan County**

**3 E Roberta**

**06 2130CST**

**0 0**

**Hail (1.00)**

**Comanche County**

**6 E Lawton**

**07 0340CST**

**0 0**

**Hail (0.75)**

3/4 inch hail covered the ground at KSWO TV

**Oklahoma County**

**Oklahoma City**

**07 0504CST**

**0 0**

**Hail (0.75)**

at I-44 and NW 10th St.

**OKZ019**

**Logan**

**16 1800CST**  
**19 1800CST**

**0 0**

**75K**

**Flood**

A slow-moving storm system produced heavy rainfall over much of southwest Oklahoma and western North Texas and parts of central, and southeast Oklahoma during mid March. Precipitation totals between 3 and 6 inches were recorded during the three-day period of March 15-17, 1998. As a result, minor to moderate flooding occurred over a widespread area, and crests above flood stage were recorded at 28 forecast points and 9 data points in the Norman hydrologic service area. Only the west-central and northwest portions of Oklahoma did not incur flooding during the period.

A second round of showers and thunderstorms moved through the area during the late evening hours of the 18th and early morning hours of the 19th. Precipitation totals between 1 and 2 inches helped produce secondary crests on some rivers.

Most of the river crests occurred between March 16 and March 19. Flood stages were exceeded at some locations as early as 8 p.m. CST on March 15 and as late as 11 p.m. CST on March 24.

The most significant flooding occurred in southwest Oklahoma, where crests of between 5 and 10 feet above flood stage were recorded at some sites.

Some of the major rivers and creeks which flooded in Oklahoma include the Clear Boggy, Cobb, Cottonwood, East Cache, Kingfisher, Mud, and Muddy Boggy Creeks, Deep Red Run, and the Blue, Canadian, Chikaskia, Cimarron, Deep Fork, Little, North Canadian, North Fork of the Red, Red, Salt Fork of the Arkansas and Washita Rivers. In western North Texas, flooding occurred along the South Wichita and Little Wichita Rivers, and Beaver Creek near Electra, Texas.

In addition, other minor tributaries and streams also overflowed their banks and produced minor to moderate flooding. These

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## OKLAHOMA, Western, Central and Southeast

streams include the Bell Cow, Cache, Chuckwa, Cow, Deer, Driftwood, Eagle Chief, Otter, Preacher, Skeleton, Turkey and Wildhorse Creeks in Oklahoma and China, Groesbeck, Paradise and Wanderers Creeks in western North Texas.

Several state highways were closed in portions of Oklahoma and western North Texas due to the flooding, and widespread areas of agricultural lands and rural roads were also inundated. However, no deaths or injuries were reported as a direct result of the flooding. Deer Creek firefighters rescued a woman and her 6-year-old child after their car ran into a ditch along the flooded intersection at NW 190th Street and Meridian Avenue 6 miles west of Edmond, OK. This flooding was produced by Deer Creek.

The most significant flood damage occurred along the Cimarron River in Logan County, where soil erosion along the north bank of the river claimed 2 houses and 1 mobile home in the Twin Lakes Sports Club near Crescent, OK. A total of 15 homes were evacuated by the Logan County Sheriff during the event. Environmental River Erosion Control (EREC) personnel reported that approximately 150 feet of the north bank had been washed away as a result of the floodwaters and that the bank was being eroded at rates up to 10 feet an hour during the peak of the flood. Damage estimates were around \$100,000.

Significant bank erosion was also reported along the Washita River near Chickasha, OK and the Pease River near Vernon, TX.

Floodwaters along Driftwood Creek destroyed a bridge detour at a road construction site along State Highway 11 about 1 mile west of Burlington, OK. Damage estimates were approximately \$50,000.

Residents in and near Walters, OK were forced to sandbag their homes due to flooding from the East Cache Creek. East Cache Creek crested at 28.3 feet during the early morning hours of March 17, 7.3 feet above flood stage.

Some of the road closures included:  
 Meridian Avenue from Edmond Road to Covell near Edmond, OK  
 State Highway 18 south of Chandler, OK  
 State Highway 131 in Wardville, OK  
 State Highway 5A west of Temple, OK  
 State Highway 5B between 5A and U.S. Highway 70  
 State Highway 152 near Eakley, OK  
 State Highway 36 near Grandfield, OK  
 State Highway 5 east of Frederick, OK

<b>McClain County</b> Blanchard	18	2010CST		0	0		Thunderstorm Wind (G52)	
reported by NWS employee								
<b>Jefferson County</b> 5 S Waurika	18	2145CST		0	0		Hail (0.75)	
<b>Grady County</b> 2 W Ninnekah	18	2205CST		0	0	0.50K	Thunderstorm Wind	
Power lines and trees were downed along Highway 81 near the intersection of Highways 277 and 81 west of town. Some of the downed lines landed against a house, trapping the occupants for about 20 minutes. A 30x30 building was also destroyed on Highway 277 between Ninnekah and Cement.								
<b>Grady County</b> 3 E Tabler	18	2215CST		0	1	60K	Thunderstorm Wind	
Severe thunderstorm winds completely destroyed a mobile home east of Tabler. An infant that was in the trailer sustained a serious head injury, and was treated at a local hospital. The other 4 occupants received only minor scrapes and bruises. A neighboring trailer home was blown 18 inches east and siding was blown off a third mobile home.								
<b>McClain County</b> 3 S Blanchard	18	2220CST		0	0	6K	Thunderstorm Wind (G61)	
Severe thunderstorm winds estimated at 70 mph (by an NWS employee) destroyed a shed, blew part of the roof off a barn, and damaged the roof of a house.								
<b>Cleveland County</b> Norman	18	2230CST		0	0	10K	Thunderstorm Wind	
Severe thunderstorm winds damaged numerous roofs and blew several mobile homes off of their blocks.								
<b>McClain County</b> 2 N Dibble	18	2230CST		0	1	15K	Thunderstorm Wind	
Severe thunderstorm winds destroyed a mobile home, injuring one of the three occupants. Three other homes in the area were damaged and two mobile homes were blown off of their blocks. Large trees were also split.								
<b>Cleveland County</b> Noble	18	2235CST		0	0		Thunderstorm Wind (G58)	
reported by NWS employee								

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## OKLAHOMA, Western, Central and Southeast

<b>Garvin County</b> Elmore City	18	2255CST			0	0	1K		<b>Thunderstorm Wind</b>
Severe thunderstorm winds downed limbs, awnings, and television antennae throughout town.									
<b>Garvin County</b> 1 SSW Pauls Valley	18	2255CST			0	0			<b>Thunderstorm Wind (G64)</b>
measured at the Oklahoma Mesonet site									
<b>Garvin County</b> Pauls Valley	18	2300CST			0	0	2.5M		<b>Thunderstorm Wind</b>
Severe thunderstorm winds caused major damage at Pauls Valley Airport and minor roof damage in town. At the airport a maintenance shop, 14 hangars, and 8 to 10 planes were completely destroyed. Damage at the airport was estimated at \$1,500,00. An Oklahoma Natural Gas shop south of Pauls Valley sustained \$150,000 in damage to the roof, walls, and garage doors. The Pauls Valley armory lost most of its new roof and air conditioner in the severe storm. Outbuildings, signs, and trees were destroyed throughout town. An historic barn was also destroyed. Total damage in the area was estimated at 2 to 3 million dollars.									
<b>Carter County</b> Lone Grove	18	2303CST			0	0	8K		<b>Thunderstorm Wind</b>
Severe thunderstorm winds blew the roof off a lumber yard.									
<b>Love County</b> Marietta	18	2315CST			0	0			<b>Hail (0.75)</b>
<b>Marshall County</b> Little City	18	2340CST			0	0			<b>Hail (0.88)</b>
<b>Seminole County</b> Wewoka	18	2350CST			0	0			<b>Thunderstorm Wind (G52)</b>
<b>Bryan County</b> Durant	19	0000CST			0	0			<b>Thunderstorm Wind (G52)</b>

Summary of events of March 18, 1998:

A line of thunderstorms formed along a cold front as it moved across central and southern Oklahoma during the evening. A few reports of severe hail were received, but the majority of damage resulted from severe thunderstorm winds. One storm moved across Grady and McClain Counties from west of Ninnekah to near Dibble. Winds estimated at 70-80 mph destroyed trees and several mobile homes. Two serious injuries resulted.

A second storm along the line produced similar severe damage in Pauls Valley. The Pauls Valley Airport was particularly hard-hit, with an estimated \$1,000,000 damage.

See preceding individual Storm Data entries for further information and additional reports.

<b>OKZ004&gt;012</b>									
<b>Harper - Woods - Alfalfa - Grant - Kay - Ellis - Woodward - Major - Garfield</b>	19	0100CST			0	0			<b>Heavy Snow</b>
2300CST									
Heavy snow fell across the northwest corner of Oklahoma overnight and into the morning of the 19th. Snow accumulations were confined to an area north of a Reydon-Enid-Kaw Lake line, with amounts over 3 inches from Arnett to Ringwood to Braman and northwestward. Seven to eight inches fell from Amorita to Freedom to Laverne, and 9 inches accumulated 8 miles north of Buffalo.									
Temperatures warmed fairly quickly and snow melted rapidly, with lingering accumulations for only a few days in extreme northwest Oklahoma.									
<b>Ellis County</b> 7 W Arnett	27	0200CST			0	0			<b>Hail (0.75)</b>
<b>Caddo County</b> 1 S Carnegie	27	0430CST			0	0	5K		<b>Thunderstorm Wind</b>
Severe thunderstorm winds blew part of the roof off of a peanut barn and downed 11 power poles. Power was off throughout Carnegie until 10 am that morning.									
<b>Jefferson County</b> Waurika	27	0600CST			0	0	2.4K		<b>Thunderstorm Wind</b>
Thunderstorm winds downed 8 high voltage power poles, cutting power to Waurika and Terral until after 7 pm that evening.									
<b>Stephens County</b> Marlow	27	0600CST			0	0	0.50K		<b>Thunderstorm Wind</b>
Power poles were blown down by a line of thunderstorms, with winds estimated at 50 to 55 mph.									
<b>Seminole County</b> Seminole	27	0900CST			0	0	0.10K		<b>Thunderstorm Wind</b>
Strong winds downed numerous branches up to 6 inches in diameter.									

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>OKLAHOMA, Western, Central and Southeast</b>									
<b>Harper County</b> Laverne	30	0124CST			0	0			Hail (0.75)
<b>Harper County</b> 14 S Selman	30	0230CST			0	0			Thunderstorm Wind (G57)
<b>Grady County</b> Chickasha	30	1249CST			0	0			Hail (1.00)
<b>Grady County</b> Chickasha	30	1250CST 1310CST			0	0	150K		Thunderstorm Wind
Severe thunderstorm winds blew out numerous windows, downed large trees, and destroyed several signs and awnings in the downtown business district. Utility poles were downed, damaging and cutting the power to the city's water treatment facility. Nearby a carport was lifted and blown onto a mobile home and a storage shed was blown away. Just south of town a mobile home was overturned by the severe thunderstorm winds.									
<b>Grady County</b> Chickasha	30	1255CST			0	0			Thunderstorm Wind (G61)
<b>Grady County</b> 7 E Tuttle	30	1310CST			0	0			Hail (0.88)
<b>Stephens County</b> 3 S Duncan	30	1343CST			0	0			Hail (0.75)
<b>Oklahoma County</b> Oklahoma City	30	1415CST			0	0			Hail (1.00)
in the northeast part of the city									
<b>Cleveland County</b> Noble	30	1438CST			0	0			Hail (0.75)
<b>Carter County</b> Fox	30	1510CST			0	0			Hail (0.88)
<b>Carter County</b> Springer	30	1540CST			0	0			Hail (1.00)
<b>Carter County</b> Springer	30	1540CST			0	0	0.80K		Thunderstorm Wind (G63)
Severe thunderstorm winds estimated at 75 mph tore sheet metal off a barn.									
<b>Murray County</b> 6 SSW Davis	30	1540CST			0	0			Hail (1.00)
at Turner Falls									
<b>Murray County</b> 5 W Sulphur	30	1540CST			0	0			Hail (0.75)
<b>Murray County</b> Dougherty	30	1545CST			0	0			Hail (1.00)
<b>Murray County</b> Dougherty	30	1545CST			0	0			Thunderstorm Wind (G61)
<b>Love County</b> 2 W Courtney	30	1550CST			0	0			Hail (0.75)
<b>Carter County</b> 1 S Springer	30	1610CST			0	0			Hail (1.00)
<b>Carter County</b> 1 S Springer	30	1610CST			0	0	0.40K		Thunderstorm Wind
Severe thunderstorm winds downed power lines.									
<b>Murray County</b> Hickory	30	1613CST			0	0			Hail (1.75)
<b>Murray County</b> Hickory	30	1615CST			0	0			Hail (1.00)
<b>Carter County</b> 2 S Dickson	30	1616CST			0	0			Hail (1.00)
accompanied by west winds of 45 to 50 mph									
<b>Carter County</b> Dickson	30	1618CST			0	0			Hail (1.00)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## OKLAHOMA, Western, Central and Southeast

<b>Pontotoc County</b>									
2 N Allen	30	1645CST			0	0			Hail (1.00)
<b>Coal County</b>									
7 NNE Tupelo	30	1705CST			0	0			Hail (0.75)
<b>Hughes County</b>									
5 WNW Calvin	30	1710CST			0	0			Thunderstorm Wind (G50)
measured at the Oklahoma Mesonet site									
<b>Hughes County</b>									
1 W Atwood	30	1715CST			0	0			Hail (0.75)
<b>Hughes County</b>									
Calvin	30	1717CST			0	0			Hail (0.88)
<b>Hughes County</b>									
Lamar	30	1718CST	0.6	25	0	0			Tornado (F0)

A severe thunderstorm produced a brief tornado in Lamar. Witnesses described a brief funnel that developed as the storm came across Lamar Mountain just southwest of town. This first funnel lifted and then a second funnel formed and touched down. The tornado moved north along the west edge of town for about .4 miles then veered to the northeast before lifting. On the southern end of the path, the roof was blown off a cow shed. Just north of there a travel trailer and dog house were blown over, an antenna was blown down, and a tree was uprooted. Shutters were blown off the next house to the north. About a block north of there the tornado blew the roof off a workshop and tossed a trampoline over a house. At this point the tornado turned to the northeast and destroyed a shed across from the post office and damaged a front porch. The damage path was about .6 miles long, and the tornado was rated F0.

<b>Johnston County</b>									
Coleman	30	1730CST			0	0			Hail (0.75)
<b>Bryan County</b>									
1 N Calera	30	1750CST			0	0			Hail (0.75)
<b>Atoka County</b>									
2 N Farris	30	1845CST			0	0			Hail (0.75)

Summary of events of March 30th:

A line of thunderstorms formed along a cold front as it moved east across central and southern Oklahoma. The line extended across the state from Kansas to Texas and produced large hail, damaging winds, and one tornado. The largest hail (golf ball-sized) was reported in Hickory in Murray County. Widespread wind damage occurred in Chickasha in Grady County as one storm evolved into a bow-echo. As the line of storms continued to move east, they developed comma-head radar signatures. One of these storms produced a small tornado (F0) in Lamar in Hughes County.

See preceding individual Storm Data entries for further information and additional reports.

## OREGON, Central and East

<b>ORZ019</b>									
<b>Northeast Oregon</b>									
23		1600PST			0	0			Flood
		2200PST							

Several creeks in the Meacham area were overflowing their banks and into pastures. Half an inch of precipitation fell in twelve hours.

## OREGON, Northwest

<b>ORZ011</b>									
<b>Northern Cascades</b>									
03		2200PST			0	0			Heavy Snow
04		1200PST							

A strong storm dumped 13 inches of new snow at Mt Hood Meadows, 10 inches at Bennett Pass, 8 inches at Santiam Pass, and 5 inches at Willamette Pass.

<b>ORZ011</b>									
<b>Northern Cascades</b>									
26		0000PST			0	0			Heavy Snow
		2000PST							

A Pacific storm dropped 7 inches of new snow at Mt Hood Meadows.

<b>ORZ001</b>									
<b>Northern Coast</b>									
27		0600PST			0	0			Heavy Snow
		2000PST							

Heavy snow fell in the North Coast Range at unseasonably low elevations behind a Pacific cold front. Sunset Summit reported 5 inches of new snow and Wilson River Summit reported a total of 4 inches of new snow.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>OREGON, Southeast</u></b>									
<b>ORZ020&gt;021</b>			<b>Baker - Lower Treasure Valley</b>						
	28	2300PST			0	0			<b>High Wind (G52)</b>
	29	1100PST							
	High winds blew across south eastern Oregon with winds of 40 mph gusting to 60 at Keating in Baker County. In Malheur County, 50 mph winds downed trees near Brogan, Oregon.								
<b><u>OREGON, Southwest</u></b>									
<b>Coos County</b>									
<b>Coos Bay</b>	21	0700PST			0	0			<b>Heavy Rain</b>
	22	0700PST							
	3.55 inches rainfall in 24 hrs.								
<b>Jackson County</b>									
<b>4 NE Copper</b>	21	1600PST			0	0			<b>Heavy Rain</b>
	22	1600PST							
	3.41 inches rainfall in past 24 hrs.								
<b>ORZ008-015</b>			<b>Rogue Basin - South Central Oregon</b>						
	21	1700PST			2	1			<b>Flood</b>
	22	1700PST							
	Warm air ahead of a strong Pacific cold front led to heavy rainfall on top of existing snowpack in southern Oregon March 21-22. Ensuing runoff caused localized flooding along streams and small rivers in southern Lake county and all of Josephine county. Bullard Creek in Lake county caused minor street flooding in Lakeview, and one home sustained light flood damage. In southwestern Oregon, one to nearly four inches of rainfall fell, resulting in widespread small stream flooding in Josephine county. The Illinois River became a raging torrent on the 22nd, caused one injury, and claimed the lives of two rafters in the area called the "Green Wall". M62BO, M37BO								
<b>ORZ015</b>			<b>South Central Oregon</b>						
	23	1144PST			0	0			<b>High Wind (G74)</b>
	Strong, gusty winds developed in central Lake county on March 23. Wind gusts ranged from 74 mph near Summer Lake to 86 mph north of Paisley.								
<b><u>PACIFIC</u></b>									
<b>Guam</b>									
<b>Merizo</b>	01	0000HST			0	0	120K		<b>Wild/Forest Fire</b>
	31	2359HST							
<b>GUZ001&gt;003-006</b>			<b>Belau - Micronesia - Marshall Islands - Guam</b>						
	01	0000HST			0	0			<b>Drought</b>
	31	2359HST							
	Drought continues across the Western Pacific. The dry conditions gave rise to conditions favourable for uncontrolled fires across Guam. These fires burnt 7619 acres. This is the third month of these types of fires, but up to this month they have been mainly in wooded areas. This month, though, the fires consumed a house in Merizo. Rainfall is low across the rest of Micronesia with most places not receiving even an inch of rain. Majuro in the Marshall Islands had only 0.27 of an inch for the entire month, with the average being 8.26 inches. Water rationing continues across many of the islands.								
<b><u>PENNSYLVANIA, Central</u></b>									
<b>Lancaster County</b>									
<b>Landisville</b>	09	1840EST			0	0			<b>Thunderstorm Wind (G51)</b>
	Thunderstorm winds downed powerlines just west of Landisville.								
<b>Lancaster County</b>									
<b>Centerville</b>	09	1845EST			0	0			<b>Hail (0.88)</b>
	Nickel sized hail fell in Centerville, west of Lancaster.								
<b>PAZ005&gt;006-037</b>			<b>Mckean - Potter - Tioga</b>						
	14	0700EST			0	0			<b>Heavy Snow</b>
	Heavy snow fell across the higher elevations of northern tier counties of Pennsylvania overnight. Up to 6 inches of new snow was reported in Kane, Coudersport, and Galeton with 5 inches in Smethport.								
<b>Snyder County</b>									
<b>Countywide</b>	19	1900EST 2230EST			0	0			<b>Flash Flood</b>
<b>Franklin County</b>									
<b>Countywide</b>	20	2330EST			0	0			<b>Flash Flood</b>
	21	1200EST							
	Heavy rains caused significant road and small stream flooding.								

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## PENNSYLVANIA, Central

<b>Adams County</b> Countywide	21	0200EST 1000EST			0	0			Flash Flood
<b>Cumberland County</b> Countywide	21	0200EST 1000EST			0	0			Flash Flood
<b>Perry County</b> Countywide	21	0200EST 1000EST			0	0			Flash Flood
<b>Lancaster County</b> Countywide	21	0500EST 1000EST			0	0			Flash Flood
<b>York County</b> Countywide	21	0500EST 1000EST			0	0			Flash Flood

1 to 2 inches of rain fell across a wide area of south central Pennsylvania, flooding small streams and closing many roads.

## **PAZ037**

### **Tioga**

21	0700EST			0	0				Heavy Snow
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Low pressure off the east coast spread large amounts of moisture westward across Pennsylvania. Snow was limited to the higher elevations of the northern counties with Tioga County reporting amounts around 6 inches.

## PENNSYLVANIA, East

<b>Berks County</b> Countywide	08 09	1100EST 1000EST			0	0			Heavy Rain
<b>Chester County</b> Countywide	08 09	1100EST 1000EST			0	0			Heavy Rain
<b>Delaware County</b> Countywide	08 09	1100EST 1000EST			0	0			Heavy Rain
<b>Montgomery County</b> Countywide	08 09	1100EST 1000EST			0	0			Heavy Rain
<b>Philadelphia County</b> Countywide	08 09	1100EST 1000EST			0	0			Heavy Rain
<b>Bucks County</b> Countywide	08 09	1200EST 1200EST			0	0			Heavy Rain
<b>Lehigh County</b> Countywide	08 09	1300EST 1500EST			0	0			Heavy Rain
<b>Northampton County</b> Countywide	08 09	1300EST 1500EST			0	0			Heavy Rain
<b>Carbon County</b> Countywide	08 09	1400EST 1400EST			0	0			Heavy Rain
<b>Monroe County</b> Countywide	08 09	1400EST 1400EST			0	0			Heavy Rain

Rain overspread Eastern Pennsylvania during the late morning and early afternoon on the 8th preceding a low pressure system's warm front. The heaviest rain in Southeast Pennsylvania fell during the late afternoon and evening on the 8th and mainly during the morning of the 9th in the Lehigh Valley, Berks County and the Poconos. Scattered pockets of heavier rain also fell during the evening of the 9th from Berks County northeast through the Poconos. Storm totals averaged between 1.5 and 2.0 inches, except they exceeded 3 inches in Monroe County. This caused some urban and poor drainage flooding, but was not heavy enough to push any major streams or rivers over their banks. The heavy rain contributed to a major crash in Chester County the afternoon of the 8th. A volunteer fire fighter was killed and ten others were injured when a braking tractor trailer flipped on its side and plowed into a group of emergency rescue workers at an accident site on the Pennsylvania Turnpike about two miles west of Downingtown.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## PENNSYLVANIA, East

Storm precipitation totals included 3.29 inches in Tobyhanna (Monroe County), 2.90 inches in Mount Pocono (Monroe County), 2.79 inches in Long Pond (Monroe County), 2.20 inches in Phoenixville (Chester County), 2.09 inches in Lehighton (Carbon County), 2.08 inches in Hamburg (Berks County), 2.05 inches in Easton (Northampton County) and East Stroudsburg (Monroe County), 2.00 inches in Green Lane (Montgomery County), 1.93 inches at the Lehigh Valley International Airport, 1.91 inches in Glenmoore (Chester County), 1.88 inches in Springtown (Bucks County), 1.44 inches in Valley Forge (Montgomery County), 1.37 inches in Neshaminy Falls (Bucks County), 1.34 inches at the Willow Grove NAS, 1.31 inches in Crum Creek (Delaware County) and 1.1 inches at the Philadelphia International Airport.

**Berks County**  
2 S Sinking Spg to  
Kutztown

<b>09</b>	<b>1912EST</b>			<b>0</b>	<b>0</b>				<b>Thunderstorm Wind</b>
	<b>1940EST</b>								

**Berks County**  
Blandon

<b>09</b>	<b>1933EST</b>	<b>2</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>100K</b>	<b>0</b>		<b>Tornado (F1)</b>
	<b>1937EST</b>								

A line of severe thunderstorms moved through Berks County Pennsylvania the evening of March 9th and knocked down tree limbs and power lines from Spring Township northeast through Kutztown. The worst damage occurred when the thunderstorm dropped a weak tornado (F1 on the Fujita Scale) in Blandon located in southern Maiden Creek Township a little after 730 p.m. EST. The tornado touched down on Pennsylvania State Route 73 (Main Street) in Blandon. It moved northeast nearly along Willow Creek and parallel to U.S. Route 222. Homes along Cornerstone Drive in the Maiden Creek Estates development were nearest the path and had the most widespread damage. The tornado lifted as it passed over Pleasant Hill Road. More than half of its two mile path length was through wooded areas and this reduced the damage that was done. No injuries were reported.

Two houses (one on Main Street and one on Pleasant Hill Road) lost sections of their roofs. The house on Pleasant Hill Road also had its front door knocked out and its garage crushed by a fallen tree. The tornado tore out an entire section of a second story wall from a house on Cornerstone Drive and embedded its siding into the ground and sides of other homes. About an additional 30 houses mainly on the east side of Cornerstone Drive suffered minor to moderate damage as the tornado leveled sheds, tossed playhouses and swing sets and ripped siding and shingles. Storage sheds were seen bouncing through backyards. Numerous trees, including fruit trees, evergreens and maples were either snapped or uprooted. Traffic signs were ravaged and twisted.

About 700 customers throughout the county lost power because of the tornado, severe thunderstorms and lightning strikes. They were concentrated in Blandon, Kutztown, Richmond Township and Wyomissing. There were also at least five separate reports of small hail with the line of thunderstorms.

**PAZ054>055**

**Carbon - Monroe**  
**18**    **0100EST**  
          **1000EST**

				<b>0</b>	<b>0</b>				<b>Wintry Mix</b>
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Light sleet and freezing rain overspread the sheltered valleys of Carbon and Monroe Counties during the first half of the day on the 18th. Precipitation started shortly after midnight as sleet and freezing rain and slowly changed over to plain rain as the morning progressed. The rain ended by noon across the Poconos. Storm totals were generally under two tenths of an inch. Untreated roadways were hazardous. A low pressure system in the Mississippi Valley pumped moisture eastward into the Middle Atlantic States. Unfortunately while it was warm enough for rain above the ground, the cold air near the surface left by a departing high pressure system made precipitation fall as sleet and/or freezing rain.

**PAZ054>055**

**Carbon - Monroe**  
**21**    **0700EST**  
**22**    **0700EST**

				<b>0</b>	<b>0</b>				<b>Winter Storm</b>
--	--	--	--	----------	----------	--	--	--	---------------------

A winter storm dropped around six inches of snow over the higher terrain of Carbon and Monroe Counties from daybreak on the 21st through sunrise on the 22nd. Precipitation started as rain before dawn on the 21st, but as cold air was drawn into the Poconos from New York State and Canada, precipitation slowly changed over from rain to sleet and then snow, starting first in the higher elevations. Periods of snow persisted through the night of the 21st until the upper level low guiding the surface low pressure system (near Cape Cod the morning of the 22nd) moved through the region. Accumulations included 6 inches at Indian Mountain Lakes (Carbon County) and 3.5 inches in East Stroudsburg. The low pressure system that caused the heavy snow moved northeast from North Carolina early in the morning on the 21st, to just east of Delaware the evening of the 21st to Cape Cod the morning of the 22nd. The upper level low steering the surface system moved through New Jersey during the early morning on the 22nd.

**PAZ060>062**

**Berks - Lehigh - Northampton**  
**21**    **1300EST**  
**22**    **0800EST**

				<b>0</b>	<b>0</b>				<b>Wintry Mix</b>
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A coastal low pressure system dropped a mixture of sleet and snow across Berks County and the Lehigh Valley from the afternoon of the 21st through sunrise on the 22nd. Precipitation started as rain before dawn on the 21st, but as cold air was drawn into the region from New York State and Canada, precipitation slowly changed over from rain to sleet in the afternoon and then to snow by the evening, starting first in the higher elevations. Periods of light snow persisted through the night of the 21st until the upper level low guiding the surface low pressure system (near Cape Cod the morning of the 22nd) moved through the region. The heaviest precipitation fell as rain earlier in the day and thus accumulations were on the light side, generally around an inch in the valleys and

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of		Estimated		Character of Storm
					Killed	Injured	Property	Crops	

## PENNSYLVANIA, East

a couple of inches over the higher terrain. Accumulations included 1 inch at Hamburg and 0.5 inches at the Lehigh Valley International Airport. The low pressure system that caused the wintry mix moved northeast from North Carolina early in the morning on the 21st, to just east of Delaware the evening of the 21st to Cape Cod the morning of the 22nd. The upper level low steering the surface system moved through New Jersey during the early morning on the 22nd.

**PAZ054>055-060>062-067>071**    **Carbon - Monroe - Berks - Lehigh - Northampton - Chester - Montgomery - Bucks - Delaware - Philadelphia**

<b>27</b>	<b>1000EST</b>								
<b>31</b>	<b>1800EST</b>			<b>0</b>	<b>0</b>				<b>Unseasonably Warm</b>

An unseasonably warm air mass for late March brought record breaking high temperatures across Eastern Pennsylvania from March 27th through March 31st. The warmest days were the 30th around the Philadelphia Metropolitan Area and either the 30th or 31st in Berks County, the Lehigh Valley and the Poconos. Several locations across the Middle Atlantic States established new March monthly high temperature records including the Lehigh Valley International Airport on the 30th with a high of 87 degrees.

The previous March monthly record was 86 degrees set on March 29, 1945. Daily high temperature records were broken at the Lehigh Valley International Airport on the 27th, 30th and 31st and on the 30th (one degree shy of the monthly record) at the Philadelphia International Airport. The high of 81 degrees on the 31st tied the record high for the day in Philadelphia. Across Eastern Pennsylvania, the highest temperatures included 89 degrees in King of Prussia (Montgomery County), and Crum Creek (Delaware County), 88 degrees in Reading (Berks County), New Hope (Bucks County), the Willow Grove NAS (Montgomery County), East Stroudsburg (Monroe County) and the Northeast Philadelphia Airport, 87 degrees in Easton (Northampton County) and the Lehigh Valley International Airport, 86 degrees at the Philadelphia International Airport and 84 degrees in Mount Pocono (Monroe County). Cloudiness and a cold frontal passage on April 1st slowly brought temperatures back to seasonal levels in early April.

## PENNSYLVANIA, Northeast

**PAZ039>040-044-048**    **Susquehanna - Wayne - Lackawanna - Pike**

<b>20</b>	<b>1900EST</b>								
<b>22</b>	<b>0900EST</b>			<b>0</b>	<b>0</b>				<b>Heavy Snow</b>

A low pressure system slowly intensified over the Carolinas from the evening of the 20th through much of the day on the 21st. A notable spoke of upper level energy rotated around this storm and affected parts of northeastern Pennsylvania from late in the evening on the 20th into the early morning hours on the 21st. A burst of heavy snow resulted, which was mixed with sleet and freezing rain. This round of mixed precipitation brought an ice coating up to a quarter of an inch thick on exposed surfaces across the higher elevations just outside of the Wilkes-Barre/Scranton metropolitan area. Also, 2 to 5 inches of snow fell within roughly a 6 hour period in areas north of Scranton.

From the evening of the 21st through the 22nd, the storm center began to move northeastward off the Mid-Atlantic coast while strengthening further. As this occurred, narrow bands of very heavy snowfall developed overnight into the early morning of the 22nd across the northern tier and Pocono regions.

Snowfall totals for this entire event were heaviest to the north and east of Scranton. Accumulations of 6 to 10 inches were common. Equinunk and Dyberry township in Wayne county picked up 8 to 10 inches of snow while Bushkill in Pike county and Great Bend in Susquehanna county received 6 to 7 inches of fresh powder.

## PENNSYLVANIA, Northwest

**PAZ001**

**Northern Erie**

<b>08</b>	<b>1600EST</b>								
	<b>1700EST</b>			<b>0</b>	<b>0</b>			<b>50K</b>	<b>High Wind</b>

Northeast winds up to 60 miles per hour along the lakeshore downed a tree on a house in Fairview and another tree fell on a house in Erie. Cablevision and power lines were downed.

**PAZ002>003**

**Southern Erie - Crawford**

<b>10</b>	<b>0415EST</b>								
<b>12</b>	<b>0645EST</b>			<b>0</b>	<b>0</b>				<b>Heavy Snow</b>

Heavy lake effect snow developed during the early morning hours on the 10th and continued on and off (mainly inland) for three days before tapering off to a few snow showers. Temperatures near or above freezing each day and the warm March sunshine kept roadways mainly wet and travel problems were confined mainly to the night time and early morning hours. Winds gusted to 40 miles per hour at times on the 10th, and diminished a bit each day, but drifting snow was a problem throughout the event. Snow depths reached six inches by 11 AM on the 10th. Total snow fall amounts generally ranged from six to eight inches, with higher amounts of 24 inches in Edinboro, 22 inches at Franklin Center and 12 inches at Corry, all in Erie County; and 22 inches at Spartansburg in Crawford County.

**PAZ002>003**

**Southern Erie - Crawford**

<b>14</b>	<b>0415EST</b>								
	<b>1915EST</b>			<b>0</b>	<b>0</b>				<b>Heavy Snow</b>

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	

## PENNSYLVANIA, Northwest

Heavy snow on the back side of a low pressure center over the Appalachians was enhanced by north winds off Lake Erie. The heaviest snow occurred during the morning and midday. Accumulations of 16 inches occurred at Union City, 12 inches at Corry and 9 inches at Edinboro, all in Inland Erie county; twelve inches at Conneautville and nine inches each at Spartansburg and Cambridge Springs, all in Crawford County.

**PAZ001**

**Northern Erie**

21	0900EST 1535EST			0	0			<b>Heavy Snow</b>
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Rain changed to snow on the back side of a low pressure system and a band of heavy snow rotated into the Erie County PA lakeshore and then weakened. Snow accumulated four to eight inches along the lakeshore with the heaviest amounts east of the city of Erie. The city of Northeast reported eight inches of new snow with north winds of 35 miles per hour blowing the snow into drifts up to four feet deep.

## PENNSYLVANIA, West

**PAZ030-032**

**Westmoreland - Fayette**

10	0500EST			0	0			<b>Winter Storm</b>
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Seven inches of snow fell at Champion in the ridges of Westmoreland County.

Blustery northwest winds brought heavy snow and some blowing and drifting snow to the higher elevations of the Chestnut and Laurel ridges.

## PUERTO RICO

**Humacao**

**Naguabo**

07	0600AST 0900AST			0	0			<b>Heavy Rain</b>
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Several creeks went out of their banks.

**Humacao**

**Countywide**

07	1200AST 1800AST			0	0	2.5M		<b>Flash Flood</b>
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**San Juan**

**North Portion**

07	1200AST 1800AST			0	0	100K		<b>Flash Flood</b>
----	--------------------	--	--	---	---	------	--	--------------------

A surface trough combined with an upper level trough produced showers and thunderstorms across most of the east and northeast sections of Puerto Rico. The municipalities most affected were San Lorenzo, Rio Grande, and Bayamon. In San Lorenzo mud slides and flood waters affected several residences and bridges. In Rio Grande river Espiritu Santo went out of his banks flooding various neighbourhoods. Some bridges were also affected by the waters. In Bayamon several cars and residences were affected in Santa Rosa neighbourhood.

**San Juan**

**Dorado**

14	1525AST 1625AST			0	0			<b>Waterspout</b>
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Several waterspouts spotted in the vicinity of Dorado.

**San Juan**

**Bayamon to  
Carolina**

29	1500AST 1800AST			0	0	5K		<b>Urban/Sml Stream Fld</b>
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Urban and small stream flooding were reported in Bayamon, Catano, and San Juan. Several houses and roads were flooded. Street flooding in poor drainage areas was observed in Carolina and Trujillo Alto.

**San Juan**

**Bayamon to  
Guaynabo**

30	1300AST 1500AST			0	0			<b>Urban/Sml Stream Fld</b>
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Urban and small stream flooding were reported in Catano, levitown, and Guaynabo.

## RHODE ISLAND

**RIZ001>007**

**Northwest Providence - Southeast Providence - Western Kent - Eastern Kent - Bristol - Washington - Newport**

08	1700EST			0	0			<b>Heavy Rain</b>
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09	2300EST							
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**RIZ001>007**

**Northwest Providence - Southeast Providence - Western Kent - Eastern Kent - Bristol - Washington - Newport**

09	0800EST 1800EST			0	0			<b>Strong Winds</b>
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# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## **RHODE ISLAND**

**Kent County**  
**West Warwick**  
**RIZ001**

**09 1900EST** **0 0** **50K** **Lightning**

**Northwest Providence**

**10 1800EST** **0 0** **Flood**

A powerful storm system moving slowly toward the northeast from the Ohio Valley to the eastern Great Lakes brought strong winds and heavy rainfall to Rhode Island, resulting in urban street flooding, basement flooding, and river flooding. The Blackstone River at Woonsocket crested at 10.3 feet on March 10th at 6:00 PM; flood stage is 9.0 feet. Urban flood control systems prevented any flooding in the city. Several parking lots were reported flooded with up to 3 feet of water along the Blackstone River in Cumberland. At times the rainfall was torrential, especially in thunderstorms during the evening on March 9th.

In West Warwick, a bolt of lightning struck a garage and the resulting fire spread to the nearby house. Damage was reported at \$50,000. Two other lightning strikes did minor damage in Providence and Cumberland.

Rainfall totals of 2 to 4 inches were reported across the state, most of it falling in about 30 hours. A record daily rainfall total of 3.02" was set on March 9th at Providence. Some of the maximum totals across the state included: Coventry, 4.05"; Clayville, 3.90"; Johnston, Providence, and Cranston, 3.60"; Woonsocket, 3.43"; Warwick, T.F. Green Airport, and East Providence, 3.41"; West Warwick, 3.40"; and Hopkinton and Cumberland, 3.30". The rest of the state had between 2 and 3 inches. Urban street flooding was quite serious in many places. Many roads had to be closed due to flooding for periods varying from a few hours up to 12 to 24 hours. Flood-prone properties also reported flooding problems.

Strong south winds gusting to 40 to 55 mph occurred after the passage of a warm front during the morning hours. The strong winds caused scattered power outages. A peak wind gust to 54 mph was reported at Tiverton. Siding was reported ripped off a vacant building in North Providence.

**RIZ001>007**

**Northwest Providence - Southeast Providence - Western Kent - Eastern Kent - Bristol - Washington - Newport**

**12 1400EST** **0 0** **Strong Winds**  
**1500EST**

Strong west to northwest winds in the wake of an Arctic cold front gusted to near 50 mph. Some peak gusts included: Tiverton, 52 mph; Newport, 50 mph; and Providence, 48 mph.

**RIZ002>007**

**Southeast Providence - Western Kent - Eastern Kent - Bristol - Washington - Newport**

**21 0600EST** **0 0** **Strong Winds**  
**22 0800EST**

A strong very early Spring nor'easter was caused by a low pressure system which moved to the north-northeast from the Virginia coast on March 21st passing to the southeast of Cape Cod on March 22nd. This storm brought a mixture of snow, sleet, and rain to Rhode Island. Over the northern half of the state, snow accumulation was from 2 to 4.5 inches. Strong northeast winds gusting from 35 to 50 mph occurred over the central and southern portion of the state. The strong winds occurred during a 24-hour period from the morning of March 21st into the morning of March 22nd. A peak wind gust to 49 mph was reported from Block Island, while Providence had a gust to 35 mph.

**RIZ002>006**

**Southeast Providence - Western Kent - Eastern Kent - Bristol - Washington**

**26 1000EST** **0 0** **Strong Winds**  
**1800EST**

Strong south-southwest winds gusting to 35 to 50 mph occurred across central and southern portions of the state. A peak gust to 35 mph was recorded at Providence.

**RIZ004**

**Eastern Kent**

**27 1434EST** **0 0** **Record Warmth**

**RIZ004**

**Eastern Kent**

**28 1140EST** **0 0** **Record Warmth**

**RIZ004**

**Eastern Kent**

**31 1350EST** **0 0** **Record Warmth**

On March 27th, the high temperature at T.F. Green Airport in Warwick reached 81 degrees, breaking the old record for the date of 77 degrees set in 1945.

On March 28th, the temperature rocketed to 81 degrees at 11:40 AM, breaking the old record for the date set in 1989. The high temperature for the day was 83 degrees, thereby establishing the new record high temperature for March 28th.

On March 31st, the temperature at T.F. Green Airport in Warwick reached 85 degrees at 1:50 PM, breaking the previous record for the date of 75 degrees set in 1981. The warmest temperature ever recorded in the month of March is 90 degrees on March 29, 1945, however.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>SOUTH CAROLINA, Central</u></b>									
<b>Bamberg County</b> 3 E Govan to 4 E Govan	08	1255EST 1257EST	1	100	0	0	0	0	<b>Tornado (F0)</b>
									The Olar tornado had a second touchdown east of Govan near highway 301 and the Little Salkehatchie River taking down several trees.
<b>Orangeburg County</b> 3 E Neeses to 4.3 E Neeses	08	1320EST 1322EST	1.3	75	0	0	80K	0	<b>Tornado (F2)</b>
									An F2 tornado tracked along highway 4 near Pine Hill. It picked up 2 mobile homes, took them 35 ft into the air, and brought them down on top of a 35 ft by 75 ft cinder block building 30 yards away completely destroying the mobile homes and the building. Other damage was done to a couple other mobile and permanent homes, and also to a church roof. A second 12 ft by 24 ft cinder block building was also demolished.
<b>Orangeburg County</b> 4 SSW Vance to 1.5 NE Vance	08	1350EST 1400EST	5	100	0	0	220K	0	<b>Tornado (F2)</b>
									An F2 tornado did major damage to a horse farm and race track. Several of the horses were injured. Debris from the horse farm was found as far as 3 miles away. Major damage was also done to a home and a couple of mobile homes. Minor damage was also done to a couple of mobile and permanent homes.
<b>Clarendon County</b> 9.5 S Manning to 9 SSE Manning	08	1418EST 1420EST	1	65	0	0	2K	0	<b>Tornado (F0)</b>
									The F2 tornado near Vance jumped Lake Marion and briefly touched down near Coopers Landing breaking off a telephone pole and some trees.
<b>Lancaster County</b> 8 NNW Lancaster	20	1429EST			0	0		0	<b>Hail (1.00)</b>
									County EPD reported large hail 2 miles west of Hancock.
<b>Sumter County</b> 5 S Sumter	20	1821EST			0	0		0	<b>Hail (1.00)</b>
									SKYWARN spotter reported 1 inch hail.
<b>Sumter County</b> 8 E Sumter	20	1830EST			0	0		0	<b>Hail (1.00)</b>
									Several SKYWARN spotters reported 1 inch hail.
<b>Lee County</b> Lynchburg	20	1845EST			0	0		0	<b>Hail (1.00)</b>
									Sheriff reported 1 inch hail in Lynchburg.
<b>Chesterfield County</b> Cheraw	20	1930EST			0	0		0	<b>Hail (1.00)</b>
									Sheriff reported 1 inch hail in Cheraw.
<b><u>SOUTH CAROLINA, North Coastal</u></b>									
<b>Dillon County</b> Fork	08	1455EST 1500EST	0.3	30	0	0			<b>Tornado (F0)</b>
									SHERIFF REPORTED TREES DOWNED, FUNNEL CLOUD SIGHTED.
<b>Marion County</b> 13 SW Mullins	08	1520EST			0	0			<b>Hail (0.75)</b>
									HAM RADIO SKYWARN REPORT OF HAIL IN THE CENTENARY - RAINS AREA.
<b>Horry County</b> 6 N Aynor	08	1530EST	0.2	30	0	0	25K		<b>Tornado (F0)</b>
									DAMAGE IN PLEASANT VIEW COMMUNITY, OFF S.C. 917. TWO HOMES AND GARAGE DAMAGED.
<b>Marlboro County</b> Clio	09	0200EST			0	0	75K		<b>Lightning</b>
									LIGHTNING-CAUSED FIRE IN THE HEBRON-DUNBAR COMMUNITY BURNED A STORAGE BUILDING, DESTROYING TRACTORS AND HISTORICAL FARMING EQUIPMENT.
<b>Horry County</b> 2 W Myrtle Beach	09	0245EST			0	0	4K		<b>Thunderstorm Wind (G55)</b>
									ROOFS DAMAGED AND TREES DOWNED ON BUSH DRIVE, NEAR WACCAMAW POTTERY.
<b>Florence County</b> Timmons ville to Florence	20	1905EST 1915EST			0	0			<b>Hail (1.75)</b>

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	

## SOUTH CAROLINA, North Coastal

REPORTED BY SKYWARN SPOTTER AND MEDIA.

### **Darlington County**

Birdstown Xrds to Society Hill	20	1905EST 1915EST			0	0			Hail (1.75)
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REPORTED BY SKYWARN SPOTTER AND MEDIA.

### **Marlboro County**

Wallace	20	1935EST 1940EST			0	0			Hail (0.75)
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HAIL REPORTED COVERING THE GROUND

### **Dillon County**

Oak Grove	20	1953EST 1955EST			0	0			Hail (0.75)
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REPORTED BY 911.

### **Marion County**

Peedee	20	2025EST 2030EST			0	0			Hail (0.75)
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### **Dillon County**

Latta to Lake View	20	2030EST 2040EST			0	0	10K		Thunderstorm Wind (G70)
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STRONG WINDS DAMAGED HOUSES AND DOWNED TREES, MAINLY BETWEEN LATTA AND LAKE VIEW.

### **Marion County**

Smithboro	20	2100EST 2105EST			0	0			Hail (1.00)
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REPORTED BY EMERGENCY MANAGEMENT

## SOUTH CAROLINA, Northwest

### **Greenville County**

Greenville	08	0800EST 1200EST			0	0			Flood
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Heavy rain overnight and in the early morning caused the Reedy River to rise a foot and a half above its' flood stage of 8 feet. Other small streams rose out of their banks on Greenville's Eastside.

### **Oconee County**

2 N Mountain Rest	20	0740EST			0	0			Thunderstorm Wind (G50)
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### **York County**

Rock Hill	20	1410EST			0	0			Thunderstorm Wind (G50)
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Thunderstorms raced across the Upstate shortly after sunrise just ahead of a strong cold front. One became severe in Oconee county and downed a few trees - one on a house. The same system produced another severe thunderstorm in York county in the early afternoon. This storm produced straight-line winds that downed trees and power lines on the the northeast side of Rock Hill. One tree fell on a car and briefly trapped its occupants. Large hail of unknown size and power outages were also reported in the same area.

## SOUTH CAROLINA, South Coastal

### **SCZ044>045**

#### **Dorchester - Berkeley**

01	0000EST				0	0			Flood
31	2359EST								

The Lower Santee River at Jamestown crested at 19.2 ft on the 19th. Flood stage 10.0 ft. The Edisto River at Givahans Ferry crested at 13.6 ft on the 21st. Flood stage is 10.0 ft. These rivers remained above flood stage for the entire month.

### **Beaufort County**

Bluffton	08	1945EST 1950EST			0	0			Thunderstorm Wind (G52)
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## SOUTH DAKOTA, Central and North

### **SDZ033>036-045-048**

#### **Stanley - Sully - Hughes - Hyde - Jones - Lyman**

06	1900CST				0	0			Heavy Snow
07	1300CST								

Heavy snow of 6 to 8 inches fell across most of central South Dakota from the evening of the 6th to the afternoon of the 7th. Some snowfall amounts included, 6 inches at Fort Pierre and 1 ENE Stephan, 7 inches at Blunt, Pierre and Murdo, and 8 inches across far southern Jones and Lyman counties. Many activities were canceled and travel was significantly disrupted, especially on Interstate-90.

### **SDZ035**

#### **Hughes**

13	1304CST				0	0			High Wind (G50)
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# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	

## SOUTH DAKOTA, West

**SDZ001-012-012>014-024>032-041>043**     **Harding - Butte - Meade Co. Plains - Ziebach - Northern Black Hills - Northern Foot Hills - Central Foot Hills - Southern Foot Hills - Central Black Hills - Southern Black Hills - Custer Plains - Pennington Plains - Haakon - Fall River Co. - Shannon - Jackson**

	28	0400MST			0	0			
	29	2100MST							Winter Storm

A weekend snow storm produced six to eighteen inches of wet snow across western through south central South Dakota. The heaviest snow fell over areas just east and south of the Black Hills and the central and southern Black Hills where 12 to 18 inch accumulations were common.

## TENNESSEE, Central

<b>Maury County</b>									
1.5 S Bryant Station to 1.5 SE Bryant Station	08	1605CST 1606CST	1	220	0	0	0	0	Tornado (F0)
									A woman saw a tornado from her home.
<b>Davidson County</b>									
Inglewood	08	1710CST			0	0			Thunderstorm Wind (G50)
									Large tree limbs were blown down.
<b>Moore County</b>									
Lynchburg	08	1745CST			0	0			Thunderstorm Wind (G50)
									A diesel storage tank, used by the city's fire department, was toppled by strong thunderstorm winds. Some of the 250 gallons of fuel leaked into a nearby creek.
<b>Wilson County</b>									
Statesville	08	1810CST			0	0			Thunderstorm Wind (G50)
									The highway department reported a tree was blown down on Harden Hollow Rd.
<b>Sumner County</b>									
Pleasant Grove	08	1825CST			0	0			Thunderstorm Wind (G50)
									The highway department reported 3 trees were blown down on Pleasant Grove Rd.
<b>Decatur County</b>									
Decaturville	19	1731CST			0	0	30K		Thunderstorm Wind (G50)
									6 homes sustained roof damage. Lots of trees blown down. 3 police antennas were blown down.
<b>Franklin County</b>									
Winchester	19	2310CST 2311CST			0	0			Hail (1.00)
									Quarter size hail reported.
<b>Marion County</b>									
South Pittsburg	19	2330CST 2333CST			0	0			Hail (0.75)
									EMA official reported dime size hail that covered the ground.
<b>Marion County</b>									
Jasper	19	2335CST 2339CST			0	0	100K		Thunderstorm Wind
									Strong thunderstorm winds blew the roof off the cafeteria of the Jasper Middle School. Many trees were blown down. Some of these trees fell on cars and homes. A portable toilet at a construction site landed inside a woman's car. Building damage was done to a chiropractor's office. About 15 roads were closed due to downed trees around Jasper.
<b>Bledsoe County</b>									
Lees Station	19	2350CST			0	0			Thunderstorm Wind (G50)
									Sheriff's office reported treed down.
<b>Sequatchie County</b>									
Dunlap	19	2350CST 2353CST			0	0			Hail (0.75)
									Dime size hail covered the ground.
<b>Sequatchie County</b>									
Dunlap	19	2350CST 2353CST			0	0	50K		Thunderstorm Wind (G50)
									Some homes and vehicles were damaged from downed trees in the Brush Creek area.
<b>Macon County</b>									
Lafayette	31	1900CST 1901CST			0	0	2K		Thunderstorm Wind
									Strong thunderstorm winds blew down 2 TVA utility poles.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>TENNESSEE, East</u></b>									
<b>Hamilton County</b> Soddy Daisy to 3 SE Soddy Daisy	20	0122EST 0130EST			0	0		8K	Tstm Wind/Hail
			Lots of trees down near Sequoyah Nuclear Power Plant blocking roads.						
<b>Rhea County</b> Countywide	20	0140EST			0	4	25K	75K	Thunderstorm Wind
			A mobile home just north of Dayton was overturned. Four persons sustained minor injuries. Trees down throughout county. Around 2000 customers were without power immediately following the storm.						
<b>Roane County</b> Countywide	20	0200EST			0	0		10K	Tstm Wind/Hail
			Around 1500 customers were without power during and just after the storm.						
<b>Loudon County</b> 3 SW Loudon	20	0220EST			0	0			Hail (0.75)
			3/4" hail reported on Highway 72.						
<b>Anderson County</b> Oak Ridge	20	0245EST			0	0		10K	Thunderstorm Wind
			Trees down in Fairview Subdivision.						
<b>Union County</b> 8 SW Maynardville	20	0315EST			0	0		10K	Thunderstorm Wind
			Trees down across Hinds Valley Rd.						
<b><u>TENNESSEE, West</u></b>									
<b>Shelby County</b> Memphis	19	1420CST			0	5			Lightning
			Five Westwood High School students were injured when lightning struck the tree they were under.						
<b>Fayette County</b> Hebron	19	1440CST 1445CST			0	0	5K		Thunderstorm Wind
			Several trees and power lines were knocked down.						
<b>Shelby County</b> Arlington	19	1525CST 1530CST			0	0	5K		Thunderstorm Wind
			Some telephone poles and power lines were blown down.						
<b>Haywood County</b> Brownsville	19	1600CST 1605CST			0	0	5K		Thunderstorm Wind
			Some cable and phone lines were knocked down.						
<b>Madison County</b> Jackson	19	1645CST 1650CST			0	0	5K		Thunderstorm Wind
			Several trees and signs were blown down.						
<b>Madison County</b> Bemis	19	1700CST 1705CST			0	0	1K		Thunderstorm Wind
			The windows of a furniture store were blown out.						
<b>Henderson County</b> Lexington	19	1715CST 1720CST			0	0	0.01K		Hail (0.75)
<b>Henderson County</b> Chesterfield	19	1725CST 1730CST			0	0	1K		Thunderstorm Wind
			Some trees and power lines were knocked down in the eastern part of Henderson county.						
<b><u>TEXAS, Central</u></b>									
<b>Tom Green County</b> Vancourt	07	1336CST			0	0			Hail (0.75)
<b>Sutton County</b> 12 E Sonora	07	1430CST			0	0			Hail (1.00)
<b>Tom Green County</b> Wall	07	1438CST			0	0			Hail (0.75)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>TEXAS, Central</u></b>									
<b>Concho County</b> Paint Rock	07	1500CST			0	0			Hail (0.75)
<b>Brown County</b> 1 N Brownwood	07	1618CST			0	0	2K		Thunderstorm Wind
A roof was blown off a trailer.									
<b>Nolan County</b> Sweetwater	15	1655CST 1920CST			0	0			Flash Flood
Street flooding reported in Sweetwater									
<b>Sutton County</b> 10 E Sonora	15	1910CST			0	0			Hail (1.50)
<b><u>TEXAS, Central Southeast</u></b>									
<b>Trinity County</b> Trinity	07	0812CST			0	0	3K		Hail (0.88)
<b>Jackson County</b> 3 SE Morales	07	2335CST			0	0	2K		Hail (0.75)
<b>Wharton County</b> El Campo	07	2359CST			0	0	3K		Hail (0.75)
<b>Brazoria County</b> Angleton	16	1030CST 1130CST			0	0	3K		Flash Flood
Street flooding.									
<b><u>TEXAS, Extreme West</u></b>									
<b>TXZ055</b> El Paso	26	1130MST 2315MST			0	0	125K		High Wind (G54)
Synoptic-scale wind produced considerable blowing dust which apparently contributed to several automobile accidents. Two businesses in El Paso also suffered significant roof damage.									
<b><u>TEXAS, Mid - South</u></b>									
<b>Nueces County</b> Robstown	07	0005CST 0010CST			0	0			Hail (1.00)
Numerous reports of quarter sized hail.									
<b>Jim Wells County</b> Alice	07	0007CST			0	0			Hail (1.00)
<b>Nueces County</b> Corpus Christi	07	0020CST 0030CST			0	0			Hail (1.75)
Numerous reports of golfball sized hail.									
<b>San Patricio County</b> Taft	07	0030CST			0	0			Hail (0.75)
<b>Aransas County</b> Rockport	07	0035CST			0	0			Hail (1.00)
<b>Duval County</b> Freer	07	2315CST			0	0			Hail (0.75)
<b>Bee County</b> Tuleta	07	2320CST			0	0			Hail (0.75)
<b>Goliad County</b> Weesatche	07	2320CST			0	0			Hail (0.75)
<b>Victoria County</b> Mission Vly	07	2340CST			0	0			Hail (0.75)
<b>Duval County</b> San Diego	07	2345CST			0	0			Hail (0.75)
<b>La Salle County</b> Cotulla	16	0100CST 0130CST			0	0			Thunderstorm Wind (G60)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>TEXAS, Mid - South</b>									
Numerous reports of several trees blown down and uprooted along with damage to mobile homes by strong thunderstorm wind gusts.									
<b>McMullen County</b> 10 N Tilden	16	0145CST			0	0			<b>Thunderstorm Wind (G60)</b>
	NWS spotter report of numerous trees blown down and uprooted. A barn door was demolished along with a shed and a wind mill.								
<b>Live Oak County</b> Whitsett	16	0215CST			0	0			<b>Thunderstorm Wind (G52)</b>
	Law enforcement officer report of a 60 mph thunderstorm wind gust.								
<b>Victoria County</b> 8 SE Victoria	16	0545CST			0	0			<b>Thunderstorm Wind (G50)</b>
	Public report of structural damage to a roof and a wind mill.								
<b>TEXAS, North</b>									
<b>Eastland County</b> 2 NE Gorman	07	0710CST			0	0	0	0	<b>Hail (0.75)</b>
<b>Wise County</b> Alvord	07	0710CST			0	0	0	0	<b>Hail (0.75)</b>
<b>Palo Pinto County</b> Gordon	07	0800CST			0	0	0	0	<b>Hail (1.50)</b>
<b>Erath County</b> 4 W Stephenville	07	0810CST			0	0	0	0	<b>Hail (0.75)</b>
<b>Palo Pinto County</b> Palo Pinto Res	07	0830CST			0	0	0	0	<b>Hail (0.75)</b>
<b>Palo Pinto County</b> Lone Camp	07	0838CST			0	0	0	0	<b>Hail (0.75)</b>
<b>Lamar County</b> Powderly	07	1300CST			0	0	0	0	<b>Hail (0.75)</b>
<b>Lamar County</b> Chicota	07	1303CST			0	0	0	0	<b>Hail (0.75)</b>
<b>Tarrant County</b> Watauga	15	2150CST			0	0	0	0	<b>Hail (0.88)</b>
<b>Tarrant County</b> North Richland Hills	15	2155CST			0	0	0	0	<b>Hail (1.75)</b>
<b>Tarrant County</b> Keller	15	2156CST			0	0	0	0	<b>Hail (1.00)</b>
<b>Tarrant County</b> North Richland Hills	15	2159CST			0	0	0	0	<b>Hail (1.00)</b>
<b>Denton County</b> Argyle	15	2210CST			0	0	0	0	<b>Hail (1.00)</b>
<b>Comanche County</b> Countywide	16	0145CST			0	0	0	0	<b>Flash Flood</b>
	Some county roads were flooded.								
<b>Somervell County</b> Countywide	16	0220CST			0	0	0	0	<b>Flash Flood</b>
	Some county roads were flooded and barricaded.								
<b>Erath County</b> Countywide	16	0228CST			0	0	0	0	<b>Flash Flood</b>
	Several roads were flooded.								
<b>Coryell County</b> Countywide	16	0440CST 0853CST			0	0	0	0	<b>Flash Flood</b>
	Numerous county roads were flooded.								
<b>Lampasas County</b> Countywide	16	0440CST			0	0	0	0	<b>Flash Flood</b>
	Numerous roads were closed by high water and 25 persons were evacuated from their homes.								
<b>Bosque County</b> Cranfills Gap	16	0508CST			0	0	0	0	<b>Flash Flood</b>

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>TEXAS, North</b>									
Two feet of water was over SH 22 at the Hamilton County line									
<b>McLennan County</b> Lorena	16	0530CST			0	0	2.5K	0	Thunderstorm Wind
Thunderstorm winds damaged a roof, blew down a chimney, and uprooted trees.									
<b>Lampasas County</b> Countywide	16	0550CST 0845CST			0	0	0	0	Flash Flood
All county roads were flooded and closed.									
<b>Bell County</b> Countywide	16	0600CST			0	0	0	0	Flash Flood
Numerous roads were closed by high water.									
<b>Hood County</b> Countywide	16	0602CST			0	0	0	0	Flash Flood
Widespread flooding of low-lying areas was reported.									
<b>Johnson County</b> West Portion	16	0607CST			0	0	0	0	Flash Flood
All county roads west of Cleburne were flooded.									
<b>Tarrant County</b> Ft Worth	16	0610CST			0	0	0	0	Flash Flood
Old Granbury Road and Crowley Road were flooded.									
<b>Tarrant County</b> Haltom City	16	0615CST			0	0	0	0	Flash Flood
Rising water during the early morning hours forced evacuation of several residences.									
<b>Tarrant County</b> Euless	16	0620CST			0	0	15K	0	Flash Flood
A woman was rescued after driving her vehicle into high water.									
<b>Parker County</b> Countywide	16	0630CST			0	0	15K	0	Flash Flood
Numerous county roads were flooded. In Aledo, two cars were washed off low water crossings.									
<b>Denton County</b> Countywide	16	0640CST			0	0	0	0	Flash Flood
Numerous county roads were flooded.									
<b>Eastland County</b> Eastland	16	0642CST			0	0	0	0	Flash Flood
Several streets were flooded.									
<b>Stephens County</b> Countywide	16	0645CST			0	0	0	0	Flash Flood
One road was flooded and barricaded.									
<b>Erath County</b> Stephenville	16	0647CST			0	0	15K	0	Flash Flood
At the intersection of SH 8 and SH 108, a truck was swept off the road by high water and carried 100 yards.									
<b>Wise County</b> Countywide	16	0647CST			0	0	0	0	Flash Flood
Pope Road, FM 1655, and CR 3355 were closed by high water.									
<b>Tarrant County</b> Kennedale	16	0800CST			0	0	0	0	Flash Flood
Some streets were closed by high water.									
<b>Bosque County</b> Meridian	16	1010CST			0	0	15K	0	Flash Flood
A car was washed off a bridge by high water.									
<b>Bosque County</b> Valley Mills	16	1653CST	0	0	0	0	0	0	Tornado (F0)
A brief tornado touchdown was reported.									
<b>Collin County</b> Mc Kinney	16	1905CST	1.2	50	0	0	200K	0	Tornado (F1)
A small tornado moved through McKinney, damaging 35 homes. Some cars were damaged by flying debris.									
<b>Bosque County</b> Clifton	16	2100CST			0	0	0	0	Flash Flood

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>TEXAS, North</b>									
The gage on the North Bosque River at Clifton measured the second highest volume of water since records began in 1923. Only minor damage was reported.									
<b>Tarrant County</b> Benbrook Lake	16	2100CST			0	0	0	0	Flood
The Rocky Creek Marina was flooded and destroyed by rapid rises in the lake level.									
<b>Grayson County</b> Sherman	18	2330CST			0	0	1.5K	0	Thunderstorm Wind (G63)
Thunderstorm winds blew aluminum roofing onto power lines.									
<b>Grayson County</b> Pottsboro	18	2340CST			0	0	0	0	Thunderstorm Wind
A radio tower was blown down by high winds.									
<b>Dallas County</b> Duncanville	19	0120CST			0	0	0	0	Hail (0.75)
<b>Hill County</b> Itasca	19	0130CST			0	0	0	0	Hail (0.75)
<b>Limestone County</b> Mexia	19	0300CST			0	0	0	0	Hail (1.75)
<b>Freestone County</b> Teague	19	0310CST			0	0	0	0	Hail (0.75)
<b>Cooke County</b> 2 E Muenster	19	2300CST			0	0	2K	0	Thunderstorm Wind
Thunderstorm winds blew down a fence, some trees, and some telephone poles.									
<b>Cooke County</b> 1 S Dexter	19	2310CST			0	0	0	0	Thunderstorm Wind
Large tree limbs were blown down.									
<b>Hood County</b> 2 W Granbury	27	0130CST			0	0	0	0	Thunderstorm Wind
Wind damage was reported.									
<b>Tarrant County</b> Arlington	28	0000CST			0	0	15K	0	Thunderstorm Wind
Part of a mobile home roof was peeled back by high winds. Water damage occurred to the interior from rain.									
<b>Young County</b> Olney	30	1300CST			0	0	0	0	Hail (0.75)
<b>Montague County</b> Nocona	30	1500CST			0	0	0	0	Hail (0.75)
<b>Montague County</b> Forestburg	30	1600CST			0	0	0	0	Hail (1.00)
<b>Cooke County</b> Muenster	30	1606CST			0	0	0	0	Hail (1.50)
<b>Cooke County</b> 2 E Muenster	30	1610CST			0	0	0	0	Hail (2.00)
<b>Cooke County</b> 1 E Muenster	30	1613CST			0	0	0	0	Hail (1.50)
<b>Cooke County</b> 8 E Marysville	30	1640CST			0	0	0	0	Hail (1.75)
Large hail was reported at Hubert H. Moss Lake.									
<b>Anderson County</b> 1 NW Palestine	30	1700CST			0	0	0	0	Thunderstorm Wind (G52)
<b>Denton County</b> 2 W Aubrey	30	1720CST			0	0	30K	0	Thunderstorm Wind
Thunderstorm winds blew over a 40 foot trailer, damaged a horse barn, and blew down five power poles.									
<b>Tarrant County</b> 8 W Ft Worth	30	1730CST			0	0	0	0	Hail (0.88)
Nickle hail was reported in west Ft. Worth.									
<b>Tarrant County</b> South Lake	30	1745CST			0	0	0	0	Hail (0.75)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>TEXAS, North</b>									
<b>Tarrant County</b> 1 W Crowley	30	1809CST			0	0	0	0	Hail (0.75)
<b>Tarrant County</b> 1 N Crowley	30	1810CST			0	0	0	0	Hail (0.88)
<b>Tarrant County</b> Arlington	30	1828CST			0	0	0	0	Hail (0.75)
<b>Kaufman County</b> 2 NE Mabank	30	2115CST			0	0	5K	0	Thunderstorm Wind
			Thunderstorm winds blew down large tree limbs and a barn.						
<b>Van Zandt County</b> Jackson	30	2120CST			0	0	0	0	Thunderstorm Wind
			Thunderstorm winds blew down a large tree.						
<b>Van Zandt County</b> Grand Saline	30	2125CST			0	0	0	0	Hail (0.75)
<b>Van Zandt County</b> Grand Saline	30	2125CST			0	0	2.5K	0	Thunderstorm Wind
			Thunderstorm winds blew down a carport.						
<b>TEXAS, North Panhandle</b>									
<b>TXZ001&gt;005</b>			<b>Dallam - Sherman - Hansford - Ochiltree - Lipscomb</b>						
	07	1700CST			0	0			Blizzard
	08	0600CST							
			A low pressure system in the upper levels of the atmosphere over the Texas South Plains and a very cold and moist air mass across the northern Texas Panhandle produced blizzard conditions with sustained wind speeds of 35 mph to 40 mph and visibilities near zero. Snowfall amounts were generally in the one to three inch range.						
<b>TXZ006&gt;017</b>			<b>Hartley - Moore - Hutchinson - Roberts - Hemphill - Oldham - Potter - Carson - Gray - Wheeler - Deaf Smith - Randall</b>						
	07	1900CST			0	0			Blizzard
	08	1900CST							
<b>TXZ018&gt;020</b>			<b>Armstrong - Donley - Collingsworth</b>						
	07	1900CST			0	0			Blizzard
	08	0600CST							
			A low pressure system in the upper atmosphere over the Texas South Plains and a very cold and moist air mass over the Texas Panhandle combined to produce blizzard conditions with sustained wind speeds of 30 to 40 mph and gusts near 50 mph along with visibilities near zero. Snowfall amounts generally ranged from up to an inch across the central Texas Panhandle and one to four inches across the extreme southern Texas Panhandle. Major highways in and around Amarillo were closed Saturday night through Sunday morning along with most roads. Power outages due to the strong winds were common across all of the Texas Panhandle.						
<b>TXZ003-008-012-017</b>			<b>Hansford - Hutchinson - Potter - Randall</b>						
	16	1200CST			0	0			Heavy Snow
	17	0000CST							
			A low pressure system in the upper atmosphere moved northeast into Oklahoma which allowed much colder and more moist air to push southward into the Texas Panhandle. Snowfall totals were generally in the four to five inch range across the central Texas Panhandle from this storm system.						
<b>TXZ001&gt;005</b>			<b>Dallam - Sherman - Hansford - Ochiltree - Lipscomb</b>						
	18	2200CST			0	0			Heavy Snow
	19	1000CST							
			A strong low pressure system in the upper atmosphere moved southeast across the Texas and Oklahoma Panhandles ushering in much colder and more moist air into the extreme northern Texas Panhandle. Snowfall totals ranged from four to eight inches across Lipscomb and Dallam counties to between eight and twelve inches across Hansford county.						
<b>Oldham County</b> Vega to 1 E Vega	26	2050CST 2057CST			0	0			Hail (1.00)
			A severe thunderstorm developed west of Amarillo producing large hail.						
<b>Ochiltree County</b> Perryton	29	2338CST			0	0			Hail (0.75)
<b>Ochiltree County</b> 3 W Perryton to 3 SW Perryton	29	2351CST 2355CST			0	0			Hail (0.88)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of		Estimated		Character of Storm
					Killed	Injured	Property	Crops	
<b>TEXAS, North Panhandle</b>									
<b>Hemphill County</b> 3 W Canadian	30	0053CST			0	0			Hail (0.75)
	Severe thunderstorms across the northeast Texas Panhandle produced large hail late at night.								
<b>Ochiltree County</b> 5 S Perryton	30	1830CST			0	0			Hail (0.88)
	A severe thunderstorm over the northeast Texas Panhandle produced large hail which covered the ground one inch deep as reported by the Ochiltree county sheriff's office.								
<b>TEXAS, Northeast</b>									
<b>Bowie County</b> Texarkana	05	1630CST			0	0			Hail (1.00)
	Nickel and quarter size hail reported along I-30 near state line.								
<b>Wood County</b> 2 SW Quitman	07	0315CST			0	0			Hail (0.75)
<b>Franklin County</b> 5 W Mt Vernon	07	0523CST			0	0			Hail (1.50)
<b>Angelina County</b> Huntington	07	0805CST			0	0			Hail (0.75)
<b>Sabine County</b> 10 N Hemphill	07	0900CST			0	0			Hail (0.75)
<b>Sabine County</b> 10 N Hemphill	07	0900CST			0	0			Hail (0.75)
<b>Nacogdoches County</b> 2 NE Appleby	07	1000CST			0	0			Hail (0.75)
<b>Wood County</b> 4 SW Quitman	30	2145CST			0	0	25K		Thunderstorm Wind (G70)
	Thunderstorm winds tore a roof off a home with a few upstairs windows blown out near the intersection of CR 2100 and FM 779.								
<b>Wood County</b> 5 E Quitman	30	2245CST			0	0	5K		Thunderstorm Wind (G60)
	Several powerlines were down east of town leading to power outages.								
<b>Wood County</b> 4 S Quitman	30	2245CST			0	0	2K		Thunderstorm Wind (G60)
	Thunderstorm winds blew the roof off a carport .								
<b>Smith County</b> Tyler Pounds Arpt	30	2305CST			0	0			Hail (1.00)
<b>Smith County</b> 4 SW Tyler	30	2305CST			0	0			Thunderstorm Wind (G65)
	Gust measured by certified Skywarn Storm Spotter.								
<b>Smith County</b> 9 SE Tyler	30	2320CST			0	0			Thunderstorm Wind (G60)
<b>Smith County</b> 13 NW Tyler	30	2320CST			0	0			Thunderstorm Wind (G60)
<b>Cass County</b> 11 NW Linden	30	2330CST			0	0			Thunderstorm Wind (G60)
	Several large trees were toppled across Hwy 161.								
<b>Cherokee County</b> 5 S Alto	30	2345CST			0	0	2K		Thunderstorm Wind (G60)
	Several trees were blown over. One fell across a barn which was slightly damaged.								
<b>Gregg County</b> Longview	30	2355CST			0	0	5K		Thunderstorm Wind (G60)
	Several trees were toppled in town leading to numerous power outages.								
<b>Gregg County</b> Longview	31	0001CST			0	0			Thunderstorm Wind (G65)
	Numerous trees fell across the north side of town along Loop 281.								
<b>Rusk County</b> New London	31	0005CST			0	0			Thunderstorm Wind (G60)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>TEXAS, Northeast</u></b>									
<b>Harrison County</b> 1 W Hallsville	31	0010CST			0	0			Thunderstorm Wind (G60)
			Several trees were toppled.						
<b>Harrison County</b> Marshall	31	0035CST			0	0			Thunderstorm Wind (G70)
			Numerous trees were down along a 3 mile path along state road 154.						
<b>Panola County</b> De Berry	31	0050CST			0	0			Thunderstorm Wind (G60)
<b>Rusk County</b> 1 S Tatum	31	0015CST			0	0	20K		Thunderstorm Wind (G60)
			Several trees fell across Hwy 43. An 18 wheeler ran into the trees and two cars piled into the back of the 18 wheeler.						
<b><u>TEXAS, South</u></b>									
			NONE REPORTED.						
<b><u>TEXAS, South Central</u></b>									
<b>Gillespie County</b> Fredericksburg	06	0902CST 0905CST			0	0	0	0	Hail (0.75)
			Hail was reported to have covered roads.						
<b>Llano County</b> Castell	07	1615CST 1620CST			0	0	0	0	Hail (1.50)
<b>Llano County</b> Llano	07	1640CST 1650CST			0	0	0	0	Hail (1.75)
<b>Gillespie County</b> 15 NE Fredericksburg	07	1645CST 1650CST			0	0	0	0	Hail (1.50)
<b>Blanco County</b> Johnson City	07	1715CST 1730CST			0	0	0	0	Hail (0.75)
<b>Blanco County</b> Round Mtn	07	1715CST 1730CST			0	0	0	0	Hail (0.75)
<b>Travis County</b> Austin	07	1750CST 1800CST			0	0	150K	0	Thunderstorm Wind
			A severe thunderstorm produced winds that damaged the roofs of numerous homes in Austin.						
<b>Hays County</b> Henly	07	1800CST 1805CST			0	0	0	0	Hail (0.75)
<b>Hays County</b> 10 NW San Marcos to 2 NW San Marcos	07	1800CST 1805CST			0	0	30K	0	Thunderstorm Wind
			Numerous trees were blown down by severe thunderstorm winds.						
<b>Comal County</b> 5 NW Canyon Res	07	1825CST 1830CST			0	0	0	0	Hail (1.75)
			Reported by Amateur Radio spotters.						
<b>Guadalupe County</b> 6 NE Geronimo	07	1850CST 1855CST			0	0	0	0	Hail (1.50)
			Reported by Amateur Radio spotters.						
<b>Caldwell County</b> 5 W Luling	07	1910CST 1920CST			0	0	0	0	Hail (1.50)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>TEXAS, South Central</b>									
<b>Gonzales County</b> 2 E Smiley to 2.5 E Smiley	07	1925CST 1927CST	0.5	100	0	0	0	0	<b>Tornado (F0)</b>
Sheriff's deputies reported a small, short-lived tornado near Smiley in open country. It dissipated rapidly.									
<b>Frio County</b> Pearsall	07	2129CST 2135CST			0	0	0	0	<b>Hail (0.75)</b>
<b>Medina County</b> Devine	07	2130CST 2135CST			0	0	0	0	<b>Hail (0.75)</b>
<b>Wilson County</b> 4 N Floresville	07	2225CST 2230CST			0	0	0	0	<b>Hail (0.75)</b>
Hail reported by Amateur Radio spotters.									
<b>Gonzales County</b> Gonzales	07	2230CST 2235CST			0	0	0	0	<b>Hail (0.75)</b>
<b>Val Verde County</b> 5 NW Comstock	15	1600CST 1615CST			0	0	0	0	<b>Hail (0.75)</b>
<b>Val Verde County</b> 13 W Langtry	15	1840CST 1855CST			0	0	0	0	<b>Hail (0.75)</b>
<b>Val Verde County</b> North Portion	15	1915CST 2100CST			0	0	15K	0	<b>Flash Flood</b>
Hwy 163 near Baker's Crossing was flooded for over an hour as over 3 inches of rain had fallen upstream within the past hour.									
<b>Edwards County</b> South Portion	15	2100CST 2230CST			0	0	3K	0	<b>Flash Flood</b>
Border Patrol officers from Carrizo Springs reported roads under water in southern Edwards County as a result of nearly 2 inches of rain over the previous 2 hours.									
<b>Dimmit County</b> Countywide	16	0000CST 0200CST			0	0	3K	0	<b>Flash Flood</b>
General rainfall of 2 inches with isolated totals of up to 4 inches produced flash flooding over much of Dimmit County									
<b>Zavala County</b> Countywide	16	0000CST 0200CST			0	0	3K	0	<b>Flash Flood</b>
General 2 inch rainfall with isolated totals near 4 inches caused flash flooding over much of Zavala County.									
<b>Zavala County</b> 5 N Crystal City	16	0010CST 0020CST			0	0	3K	0	<b>Thunderstorm Wind</b>
Trees were blown down by severe thunderstorm winds.									
<b>Bandera County</b> Countywide	16	0100CST 0300CST			0	0	10K	0	<b>Flash Flood</b>
<b>Bexar County</b> Countywide	16	0100CST 0300CST			0	0	30K	0	<b>Flash Flood</b>
<b>Comal County</b> Countywide	16	0100CST 0230CST			0	0	15K	0	<b>Flash Flood</b>
<b>Kendall County</b> Countywide	16	0100CST 0230CST			0	0	20K	0	<b>Flash Flood</b>

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>TEXAS, South Central</b>									
<b>Medina County Countywide</b>	16	0100CST 0300CST			0	0	3K	0	Flash Flood
<b>Blanco County Countywide</b>	16	0130CST 0230CST			0	0	15K	0	Flash Flood
<b>Burnet County Countywide</b>	16	0130CST 0230CST			0	0	15K	0	Flash Flood
<b>Kerr County Countywide</b>	16	0130CST 0230CST			0	0	25K	0	Flash Flood
<b>Llano County Countywide</b>	16	0130CST 0230CST			0	0	5K	0	Flash Flood
<p>Between 3 and 4 inches of rain fell over the above counties in just under four hours. Maximum rainfall was in eastern Bandera and eastern Kerr Counties, where 6 inches was reported, and in western Bexar and western Comal Counties, where 5 inches was reported. In Kerr County, the flash flooding was so widespread and dangerous that two school districts remained closed throughout the day, as up to 70 percent of their school bus routes were impassable due to the damage. Several high water rescues were reported along Leon Creek in the western part of Bexar County, along with abandoned vehicles and several rescues in both Kerr and Kendall Counties. Numerous county roads and Farm-to-Market roads were flooded through the early morning hours in the nine-county area of South Central Texas.</p>									
<b>Dimmit County Carrizo Spgs</b>	16	0100CST 0110CST			0	0	0	0	Hail (0.75)
<b>Medina County Yancey</b>	16	0100CST 0110CST			0	0	40K	0	Thunderstorm Wind
<p>A severe thunderstorm destroyed two mobile homes near Yancey. No injuries were reported.</p>									
<b>Atascosa County Charlotte</b>	16	0140CST 0150CST			0	0	80K	0	Thunderstorm Wind
<p>A severe thunderstorm damaged several small sheds and took roofs off homes in the Charlotte area.</p>									
<b>Bexar County San Antonio</b>	16	0245CST 0250CST			0	0	30K	0	Thunderstorm Wind
<p>A severe thunderstorm blew out windows and caused damage to roofs in the Fort Sam Houston portion of San Antonio.</p>									
<b>Guadalupe County Staples</b>	16	0320CST 0330CST			0	0	50K	0	Thunderstorm Wind
<p>a trailer was badly damaged by severe thunderstorm winds near Staples.</p>									
<b>Hays County San Marcos</b>	16	0325CST 0335CST			0	0	30K	0	Thunderstorm Wind
<p>Widespread damage was reported to trees and signs in and around San Marcos. Winds were estimated in excess of 60 kts by observers.</p>									
<b>Frio County Pearsall</b>	16	0108CST 0120CST			0	0	25K	0	Thunderstorm Wind
<p>Severe thunderstorm winds estimated at between 70 and 90 knots took roofs off a trailer and caused damage to 6 homes and several businesses in and around Pearsall. In addition, a 220-foot radio tower was blown over, with damages estimated at \$15,000.</p>									
<b>Burnet County 5 SE Marble Falls</b>	30	1900CST 1910CST			0	0	0	0	Hail (0.75)
<b>Blanco County Countywide</b>	30	2000CST 2045CST			0	0	0	0	Flash Flood
<p>Countywide rainfall of up to 2 inches in one hour, with isolated totals to 3 inches, produced brief flash flooding.</p>									

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>TEXAS, South Panhandle</u></b>									
<b>Hale County</b> Plainview	07	0135CST			0	0	0	0	Hail (0.88)
									Nickel-size hail was reported in Plainview by the Police Department.
<b>Swisher County</b> Tulia	18	1520CST			0	0	0	0	Hail (0.88)
									The NWS co-operative observer in Tulia reported nickel-size hail at 1520CST.
<b>Swisher County</b> 8 E Kress	18	1600CST	0.1	10	0	0	0	0	Tornado (F0)
									A brief weak tornado was reported east of Kress at 1600CST by Amarillo TV station chase team.
<b>TXZ029-035</b> <b>Hale - Lubbock</b>	27	1244CST			0	0	7K	0	High Wind (G51)
									High winds gusted to 51 knots (59 mph) at Lubbock International Airport at 1244 CST. The high winds blew down road signs near the airport, and also blew over signs and a tractor-trailer in southern Hale County.
<b><u>TEXAS, Southeast</u></b>									
<b>Jefferson County</b> Port Neches	07	0430CST			0	0			Thunderstorm Wind (G50)
									58 mph wind gust recorded at Huntsman Plant.
<b>Jefferson County</b> Port Neches	07	0525CST			0	0			Hail (0.75)
<b>Hardin County</b> Lumberton	07	0555CST			0	0			Hail (0.75)
<b>Jefferson County</b> Port Arthur	07	0605CST			0	0			Thunderstorm Wind (G50)
									Tug boat operator recorded wind gust of 58 mph.
<b>Orange County</b> Bridge City	07	0605CST			0	0			Hail (0.75)
<b>Jasper County</b> Jasper	07	1735CST			0	0			Hail (0.75)
<b>Newton County</b> Burkeville	07	1805CST			0	0			Hail (0.75)
<b>Jasper County</b> Mt Union	16	1215CST			0	0	50K		Thunderstorm Wind
									A large barn was destroyed when severe thunderstorm winds blew it down.
<b>Jefferson County</b> Port Arthur	16	1300CST			0	0	100K		Thunderstorm Wind
									Sheet metal was ripped from several buildings, and power lines were downed in a one block area on Gulfway Drive in Port Arthur.
<b><u>TEXAS, West</u></b>									
<b>Reagan County</b> Big Lake	06	2148CST			0	0			Hail (0.75)
									A thunderstorm dropped 3/4 inch hail at Big Lake with hail in 4-6 inch drifts about 4 miles south of town. This event was largely elevated convection that blossomed as an upper-level speed max entered the area in a southwesterly flow.
<b>Glasscock County</b> St Lawrence	17	1915CST			0	0			Hail (0.88)
									A cold core upper level trough moved through the region with a 500 mb temperature of -21C at KMAF.
<b><u>TEXAS, Western North</u></b>									
<b>Baylor County</b> 1 SW Seymour	18	2005CST			0	0			Thunderstorm Wind (G52)
<b>Archer County</b> 7 S Dundee	18	2035CST			0	0			Hail (0.75)
<b>Archer County</b> Lake Kickapoo	18	2040CST			0	0			Hail (0.88)
<b>Archer County</b> 4 SW Archer City	18	2045CST			0	0			Hail (1.00)
<b>Archer County</b> Lakeside City	30	1238CST			0	0			Hail (0.75)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>TEXAS, Western North</b>									
<b>Wichita County</b> Wichita Falls	30	1240CST			0	0			Hail (0.88)
			on the south side of town						
<b>Archer County</b> Archer City	30	1300CST			0	0			Thunderstorm Wind (G52)
<b>Archer County</b> 2 SE Lakeside City	30	1300CST			0	0			Hail (0.75)
			at the intersection of Highway 281 and FM 1954						
<b>Wichita County</b> Wichita Falls	30	1300CST			0	0			Hail (1.00)
<b>Clay County</b> Dean	30	1319CST			0	0			Hail (0.88)
			on the north side of town						
<b>Clay County</b> 2 W Deer Creek	30	1340CST			0	0			Hail (0.88)
			one mile south of the intersection of FM 172 and FM 1883, on FM 1883						
<b>Clay County</b> Lake Arrowhead	30	1340CST			0	0			Thunderstorm Wind (G52)
			on the east side of Lake Arrowhead						
<b>Clay County</b> Henrietta	30	1348CST			0	0			Hail (0.88)
<b>Clay County</b> Henrietta	30	1348CST			0	0	0.50K		Thunderstorm Wind
			Severe thunderstorm winds estimated at 70 mph downed large trees and power lines. Roofs were damaged and a small office trailer was blown over.						
<b>Clay County</b> 2 S Joy	30	1402CST			0	0			Hail (0.88)
<b>Clay County</b> 12 S Henrietta	30	1408CST			0	0			Hail (0.75)
			Summary of events of March 30th:						

Severe thunderstorms formed along a cold front as it moved across southern Oklahoma and into north Texas. Storms developed over Archer and Wichita Counties around midday then moved east into Clay County by early afternoon. Hail as large as quarters fell in Wichita Falls. Wind gusts were estimated as high as 70 mph in Henrietta (Clay County).

See preceding individual Storm Data entries for further information and additional reports.

## UTAH, North, Central and South

<b>UTZ003-006&gt;008</b>	<b>Salt Lake And Toole Valleys - Wasatch Mountain Valleys/Huntsville/Park City/Heber - Wasatch Mountains I80 North - Wasatch Mountains South Of I80</b>								
	03	0200MST			0	0	5K		Winter Storm
	04	1000MST							
			Heavy snow and gusty northwest winds occurred in northern Utah. Wind gusts to 55 mph (American Fork) were measured along the cold front.						
<b>UTZ001&gt;012-015&gt;018-022&gt;023-025</b>	<b>Cache Valley/Utah Portion - Northern Wasatch Front/Brigham City/Ogden Bountiful - Salt Lake And Toole Valleys - Southern Wasatch Front/Lehi/Provo/Nephi - Great Salt Lake Desert And Mountains/Wendover/Snowville - Wasatch Mountain Valleys/Huntsville/Park City/Heber - Wasatch Mountains I80 North - Wasatch Mountains South Of I80 - Western Unita Mountains - Wasatch Plateau/Book Cliffs - Western Unita Basin - Castle Country/Price/Castle/Dale/Emery - West Central Utah/Delta - Southwest Utah/Cedar City/Milford - Central And Southwest Mountains - Southeast Mountains/Canyonlands - Southeast Utah/Blanding - Eastern Uinta Mountains - Tavaputs Plateau</b>								
	05	2100MST			0	8	95K	5K	Winter Storm
	07	1000MST							
			Another winter storm wreaked havoc in Utah during this time. Along the cold front wind gusts from 35-45 mph were common. The highest snow fell at Brian Head 40" and in the Eden and Liberty areas (valleys) 20-24".						
<b>UTZ017</b>	<b>Central And Southwest Mountains</b>								
	13	2100MST			0	0	0		Heavy Snow
	14	0800MST							
			6" of snow fell at the Brian Head ski resort in southwest Utah.						

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## UTAH, North, Central and South

<b>UTZ008</b>	<b>Wasatch Mountains South Of I80</b>								
	<b>14</b>	<b>1300MST 1700MST</b>			<b>0</b>	<b>5</b>	<b>50K</b>		<b>Avalanche</b>
	Little Cottonwood Canyon had 6 avalanches. Vehicles were swept from the road causing injuries to 5 people.								
<b>UTZ002&gt;004-007&gt;008-019-023</b>	<b>Northern Wasatch Front/Brigham City/Ogden Bountiful - Salt Lake And Toole Valleys - Southern Wasatch Front/Lehi/Provo/Nephi - Wasatch Mountains I80 North - Wasatch Mountains South Of I80 - Utah'S Dixie And Zion National Park - Eastern Uinta Mountains</b>								
	<b>17</b>	<b>1200MST</b>			<b>0</b>	<b>0</b>	<b>15K</b>	<b>5K</b>	<b>Winter Storm</b>
	<b>18</b>	<b>0300MST</b>							
	High winds and heavy snow occurred. Wind gusts to 68 mph (59kts) and 61 mph (53kts) were measured in Washington county. Wind gusts of 40-50 mph generally occurred elsewhere. 4-6" of snow fell across most of northern Utah with 7" reported in the Flaming Gorge area.								
<b>Sevier County 5 E Monroe</b>	<b>24</b>	<b>2030MST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0.20K</b>	<b>Thunderstorm Wind (G54)</b>
<b>Tooele County 4 NE Vernon</b>	<b>24</b>	<b>2130MST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>2K</b>	<b>Thunderstorm Wind (G72)</b>
	Severe thunderstorm winds occurred in two spots on this evening. The first was recorded on the Signal Peak RAWs while the second was measured on the Dugway mesonet near Vernon.								
<b>UTZ002&gt;004-006&gt;010-017-019&gt;020</b>	<b>Northern Wasatch Front/Brigham City/Ogden Bountiful - Salt Lake And Toole Valleys - Southern Wasatch Front/Lehi/Provo/Nephi - Wasatch Mountain Valleys/Huntsville/Park City/Heber - Wasatch Mountains I80 North - Wasatch Mountains South Of I80 - Western Uinta Mountains - Wasatch Plateau/Book Cliffs - Central And Southwest Mountains - Utah'S Dixie And Zion National Park - South Central Utah/Kanab/Escalante</b>								
	<b>27</b>	<b>1200MST</b>			<b>0</b>	<b>6</b>	<b>80K</b>	<b>6K</b>	<b>Heavy Snow</b>
	<b>30</b>	<b>1200MST</b>							
	Heavy snow fell in southwest and northern Utah during this time causing numerous traffic accidents. Alta had 57" and 10" of snow fell in Salt Lake Avenues District (valleys) for the highest storm totals.								

## UTAH, Northeast

NONE REPORTED.

## VERMONT, North and Central

<b>VTZ005</b>	<b>Chittenden</b>								
	<b>09</b>	<b>0300EST 1200EST</b>			<b>0</b>	<b>0</b>	<b>5K</b>		<b>High Wind (G52)</b>
	A storm system over the Ohio Valley Sunday night (March 8) moved into the St. Lawrence Valley Monday (March 9) and then into southern Quebec Monday night. Gusty winds resulted along the west slopes of the Green Mountains of Vermont. Specifically, the following wind gusts were reported in eastern Chittenden county:								
	Hanksville.....60 mph (52 knots) and Jericho.....57 mph (50 knots).								
<b>VTZ006</b>	<b>Lamoille</b>								
	<b>09</b>	<b>0300EST 1200EST</b>			<b>0</b>	<b>0</b>	<b>5K</b>		<b>High Wind (G62)</b>
	A storm system over the Ohio Valley Sunday night (March 8) moved into the St. Lawrence Valley Monday (March 9) and then into southern Quebec Monday night. Gusty winds resulted along the west slopes of the Green Mountains of Vermont. Specifically, the following wind gust was reported in western Lamoille county:								
	Pleasant Valley.....71 mph (62 knots).								
<b>VTZ002</b>	<b>Franklin</b>								
	<b>10</b>	<b>0900EST 2300EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	Earlier rainfall of around an inch combined with snow melt resulted in flooding of fields and local roads by the Missisquoi River between the Vermont towns of Sheldon and Swanton in Franklin county during Tuesday, March 10.								
<b>VTZ003-003-006&gt;008-010&gt;012</b>	<b>Orleans - Lamoille - Caledonia - Washington - Orange - Rutland - Windsor</b>								
	<b>14</b>	<b>1000EST</b>			<b>0</b>	<b>0</b>	<b>100K</b>		<b>Heavy Snow</b>
	<b>15</b>	<b>0800EST</b>							

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## VERMONT, North and Central

An area of low pressure moved across northern New York and northern New England during Saturday (March 14) and then into the Canadian maritimes Sunday (March 15). A complex pattern of snow accumulations resulted across Vermont, with the heaviest snowfall in and east of the Green Mountains. A number of traffic accidents were reported. Some of the heavier accumulations were:

Waitsfield	(Washington county).....	14.0 inches
Tyson	(Windsor county).....	11.0 inches
Brookfield	(Orange county).....	10.0 inches
Eden	(Lamoille county).....	10.0 inches
Jay Peak	(Orleans county).....	9.0 inches
Sutton	(Caledonia county).....	9.0 inches
East Wallingford	(Rutland county).....	9.0 inches
Albany	(Orleans county).....	7.0 inches.

### VTZ004

#### Essex

14	1100EST	0	0		Light Snow
15	0800EST				

An area of low pressure moved across northern New York and northern New England during Saturday (March 14) and then into the Canadian maritimes Sunday (March 15). A complex pattern of snow accumulations resulted in generally 3 to 6 inches across far northeast Vermont in Essex county.

### VTZ001>002-005-009

#### Grand Isle - Franklin - Chittenden - Addison

14	1100EST	0	0	10K	Light Snow
15	0600EST				

An area of low pressure moved across northern New York and northern New England during Saturday (March 14) and then into the Canadian maritimes Sunday (March 15). A complex pattern of snowfall resulted in accumulations of generally 3 to 6 inches in the Champlain Valley of Vermont. Several traffic accidents were reported in Addison county.

### VTZ001>012

#### Grand Isle - Franklin - Orleans - Essex - Chittenden - Lamoille - Caledonia - Washington - Addison - Orange - Rutland - Windsor

21	1000EST	0	0	115K	Heavy Snow
22	1600EST				

A storm system along the Virginia coast on Saturday (March 21) moved slowly northeast into the Gulf of Maine late Sunday and Sunday night (March 22). Snow was heavy Saturday night into Sunday morning with a number of traffic accidents reported and brief power outages. The snow tapered off to snow showers Sunday night. Snow accumulations were generally 15 to 20 inches across northwest and north central Vermont with around a foot elsewhere across the area. The heaviest report was 25 inches at Jay Peak near the border of the Vermont counties of Franklin and Orleans. The following are a few snow accumulations from across the area:

Albany	(Orleans county).....	19.2 inches
Eden	(Lamoille county).....	18.0 inches
Essex	(Chittenden county).....	16.0 inches
Sheldon Springs	(Franklin county).....	16.0 inches
Waitsfield	(Washington county).....	14.0 inches
Brookfield	(Orange county).....	14.0 inches
South Lincoln	(Addison county).....	12.5 inches
Rochester	(Windsor county).....	12.0 inches
Sutton	(Caledonia county).....	12.0 inches
Rutland	(Rutland county).....	11.5 inches
Island Pond	(Essex county).....	10.0 inches.

### Franklin County Countywide

28	2223EST	0	0	250K	Flood
31	2359EST				

Unseasonably warm weather resulted in dramatic snowmelt with rapid rises on rivers the last few days of March. In addition, showers and thunderstorms with heavy downpours moved across the area on the 30th enhancing the runoff into the rivers. Among the streams and rivers flooding were the Missisquoi from Richford to Swanton and the Trout River in and around Montgomery. A few houses were flooded in Swanton on March 28th and 29th. A number of roads were also closed due to flood waters. These rivers continued to exceed flood stage through the end of the month.

### Lamoille County Countywide

29	0700EST	0	0	10K	Flood
31	2359EST				

Unseasonably warm weather resulted in dramatic snowmelt with rapid rises on rivers the last few days of March. Specifically, the Lamoille River began flooding from Morrisville to Johnson to Cambridge early on the 29th of March flooding portions of Route 15.

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## VERMONT, North and Central

The Lamoille River continued to exceed flood stage flooding fields through the end of the month.

### Rutland County Countywide

<b>29</b>	<b>0700EST</b>								
<b>31</b>	<b>2359EST</b>				<b>0</b>	<b>0</b>	<b>20K</b>		<b>Flood</b>

Unseasonably warm weather resulted in dramatic snowmelt with rapid rises on rivers the last few days of March. The Otter Creek began flooding early on the 29th and continued through the end of the month. The most significant flooding was between Rutland and Brandon with several road closures.

### Orleans County Countywide

<b>29</b>	<b>2000EST</b>								
<b>31</b>	<b>2359EST</b>				<b>0</b>	<b>0</b>	<b>10K</b>		<b>Flood</b>

Unseasonably warm weather resulted in dramatic snowmelt with rapid rises on rivers the last few days of March. In addition, showers and thunderstorms with heavy downpours moved across the area on the 30th further enhancing runoff into rivers and streams. In particular, the Black River began flooding fields the evening of the 29th and continued through the end of the month. At times route 5 in the coventry area was impacted by flood waters from this river.

### Franklin County Sheldon

<b>30</b>	<b>1743EST</b>								
	<b>1744EST</b>				<b>0</b>	<b>0</b>	<b>5K</b>		<b>Hail (1.75)</b>

A frontal boundary across southern Canada triggered late afternoon and evening thunderstorms across northern Vermont on Monday, March 30. A few thunderstorms were accompanied by strong winds and large hail.

In sheldon, Vermont golfball size hail was reported around 543 pm. Elsewhere in Franklin county hail around 1/2 inch was reported in Enosburg Falls.

### Orleans County Orleans

<b>30</b>	<b>1810EST</b>								
	<b>1815EST</b>				<b>0</b>	<b>0</b>	<b>10K</b>		<b>Thunderstorm Wind</b>

A frontal boundary across southern Canada triggered late afternoon and evening thunderstorms across northern Vermont on Monday, March 30. A few thunderstorms were accompanied by strong winds and hail.

In the Vermont town of Orleans, strong thunderstorm winds damaged the roof of a barn around 610 pm. Small hail was also reported. In the Vermont towns of Barton and Glover hail was reported between 1/4 and 1/2 inch in diameter.

### Chittenden County (Btv)Burlington Arpt

<b>31</b>	<b>0000EST</b>								
	<b>2359EST</b>				<b>0</b>	<b>0</b>			<b>Record Temperature</b>

Maximum temperature of 84 degrees recorded at National Weather Service Burlington Airport Office tied record for hottest March day.

### Washington County Berlin

<b>31</b>	<b>0000EST</b>								
					<b>0</b>	<b>0</b>			<b>Record Temperature</b>

Maximum temperature of 82 degrees recorded at Barre-Montpelier Airport (MPV) set record for warmest March day.

### Essex County Countywide

<b>31</b>	<b>0250EST</b>								
	<b>2359EST</b>				<b>0</b>	<b>3</b>	<b>100K</b>		<b>Flood</b>

Unseasonably warm weather resulted in dramatic snowmelt with rapid rises on rivers the last few days of March. In addition, showers and thunderstorms with heavy downpours moved across the area on the 30th enhancing runoff into streams and rivers. During the early morning hours of the 31st, flooding occurred between Island Pond and Norton. A train derailed about 7 miles north of Island Pond, Vermont at approximately 545 AM with 2 injuries resulting. There were a number of extensive road washouts between Island Pond and Norton, Vermont. A tractor trailer drove into one washed out section of road and the driver was injured. Field flooding also occurred on the Moose River. Flooding in the county continued through the end of the month.

### Addison County Countywide

<b>31</b>	<b>1200EST</b>								
	<b>2359EST</b>				<b>0</b>	<b>0</b>	<b>10K</b>		<b>Flood</b>

Unseasonably warm weather resulted in dramatic snowmelt with rapid rises on rivers the last few days of March. The Otter Creek flooded in the Vergennes area with water on roadways and fields. This flooding continued through the end of the month.

### Caledonia County Countywide

<b>31</b>	<b>1600EST</b>								
	<b>2359EST</b>				<b>0</b>	<b>0</b>	<b>10K</b>		<b>Flood</b>

Unseasonably warm weather resulted in dramatic snowmelt with rapid rises on rivers the last few days of March. On March 31, St. Johnsbury reached 83 degrees setting a new record high temperature for March. In addition, showers and thunderstorms with heavy downpours moved across the area on the 30th enhancing runoff into rivers. The Passumpsic River flooded between the towns of Lyndonville and Passumpsic on the 31st with water on roadways. The Passumpsic River exceeded flood stage through the end of the month.

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## VERMONT, North and Central

### **Orange County Northeast Portion**

<b>31</b>	<b>2000EST 2359EST</b>					<b>0</b>	<b>0</b>	<b>10K</b>	<b>Flood</b>
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Unseasonably warm weather resulted in dramatic snowmelt with rapid rises on rivers the last few days of March. In addition, showers and thunderstorms with heavy downpours moved across the area on the 30th enhancing runoff into rivers. The Wells River began to flood in the town of Wells River around 8 pm on the 31st through the end of the month.

## VERMONT, South

### **VTZ013>014**

#### **Bennington - Windham**

<b>14</b>	<b>0300EST</b>					<b>0</b>	<b>0</b>		<b>Snow</b>
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During March 14 and 15, an Alberta Clipper produced snow across southern Vermont. The greatest snowfall occurred in the higher elevations of the Greene Mountains. Snow totals generally ranged from 3 to 6 inches. The heavy wet snow caused numerous traffic accidents.

### **VTZ014**

#### **Windham**

<b>21</b>	<b>0200EST</b>					<b>0</b>	<b>0</b>		<b>Winter Storm</b>
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During March 21 and 22, a coastal storm produced a mix of snow, sleet and freezing rain across southern Vermont. The precipitation fell mainly as snow in the higher elevations. Snow totals in Windham County generally ranged from 5 to 9 inches. Snowfall was much lighter over Bennington County, due to the snow frequently mixing with and changing to sleet and freezing rain.

### **VTZ013>014**

#### **Bennington - Windham**

<b>27</b>	<b>1200EST</b>					<b>0</b>	<b>0</b>		<b>Excessive Heat</b>
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The end of March was a period of record heat across southern Vermont as strong high pressure off the Mid-Atlantic coast produced a persistent southerly flow. From March 27 to March 31, high temperatures ranged from the middle 70s to upper 80s.

### **VTZ013**

#### **Bennington**

<b>29</b>	<b>1200EST</b>					<b>0</b>	<b>0</b>	<b>10K</b>	<b>Flood</b>
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Rapid snowmelt during the end of March caused flooding along the Batten Kill in Bennington County. Widespread low land flooding occurred along route 313 near Arlington. The river crested at Arlington on April 1, with a reading of 6.35 feet. Flood stage at Arlington is 6 feet.

## VIRGIN ISLANDS

NONE REPORTED.

## VIRGINIA, East

### **Hanover County 1.3 S Studley**

<b>09</b>	<b>0430EST</b>					<b>0</b>	<b>0</b>	<b>15K</b>	<b>Thunderstorm Wind</b>
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Apparent microburst downed several trees and severely damaged a barn. In addition, there was minor roof damage to 2 homes and one other barn sustained siding damage.

### **Gloucester County Perrin to Severn**

<b>09</b>	<b>0530EST</b>	<b>1.5</b>	<b>50</b>			<b>0</b>	<b>0</b>	<b>20K</b>	<b>Tornado (F0)</b>
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Tornado caused an intermittent damage path from Perrin to Severn. Several trees down. A mobile home was destroyed. Debris damaged several other buildings.

### **Chesterfield County Chesterfield**

<b>20</b>	<b>2235EST</b>					<b>0</b>	<b>0</b>		<b>Hail (0.75)</b>
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### **Prince George County New Bohemia**

<b>20</b>	<b>2235EST</b>					<b>0</b>	<b>0</b>		<b>Hail (0.88)</b>
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### **Westmoreland County Montross**

<b>20</b>	<b>2330EST</b>					<b>0</b>	<b>0</b>		<b>Hail (0.75)</b>
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### **Norfolk (C) Norfolk**

<b>21</b>	<b>0050EST</b>					<b>0</b>	<b>0</b>		<b>Hail (0.75)</b>
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## VIRGINIA, Extreme Southwest

NONE REPORTED.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time	Path	Path	Number of		Estimated		Character of Storm
		Local/ Standard	Length (Miles)	Width (Yards)	Killed	Injured	Property	Crops	

## VIRGINIA, North

<b>VAZ021-025&gt;031-036&gt;042-050&gt;057</b>	<b>Highland - Augusta - Rockingham - Shenandoah - Frederick - Page - Warren - Clarke - Nelson - Albemarle - Greene - Madison - Rappahannock - Fauquier - Loudoun - Orange - Culpeper - Prince William - Fairfax - Arlington - Stafford - Spotsylvania - King George</b>								
	11	0700EST			0	0		25K	Unseasonably Cold
	13	0700EST							

A series of cold fronts ushered in only the second arctic air mass of the winter of 1997/98. The unseasonably cold air, arriving on the heels of a mild and wet February, caused minor damage to fruit crops in north central and northwestern Virginia. The combination of mild and moist conditions earlier in the winter not only led to accelerated bud growth, but may have decreased the resistance of fruit trees to the hard freeze.

In general, the freeze spared the apple crop, which had not reached critical bud stage. The peach crop was affected, especially in the southern and central Shenandoah Valley. However, the general consensus was that trees at critical bud stage were few, and the affect of the freeze was to thin out the crop. Plum trees, on the other hand, were not so lucky, according to Orange and Culpeper Cos (VAZ050>051) agricultural officials.

The coldest morning, March 13, produced several record low temperatures. In particular, Washington Dulles International Airport (IAD), which had a low of 16 degrees, broke its previous record of 18 set in 1984.

<b>Highland County</b>									
Countywide	20	1800EST			0	0		10K	Flood
	21	0000EST							
<b>Albemarle County</b>									
West Portion	20	1900EST			0	0			Flood
	21	0200EST							
<b>Frederick County</b>									
Countywide	20	1900EST			0	0		15K	Flood
	21	0900EST							
<b>Greene County</b>									
Countywide	20	1900EST			0	0		10K	Flood
	21	0200EST							
<b>Madison County</b>									
Countywide	20	1900EST			0	0		10K	Flood
	21	0200EST							
<b>Clarke County</b>									
Countywide	20	2000EST			0	0		3.5K	Flood
	21	0600EST							
<b>Page County</b>									
Countywide	20	2000EST			0	0		3.5K	Flood
	21	0600EST							
<b>Rappahannock County</b>									
Countywide	20	2000EST			0	0		3.5K	Flood
	21	0600EST							
<b>Warren County</b>									
Countywide	20	2000EST			0	0		3.5K	Flood
	21	0600EST							
<b>Fauquier County</b>									
Countywide	20	2100EST			0	0		3.3K	Flood
	21	0600EST							
<b>Loudoun County</b>									
West Portion	20	2100EST			0	0		10K	Flood
	21	0900EST							
<b>Orange County</b>									
Countywide	20	2100EST			0	0		3.3K	Flood
	21	0600EST							
<b>Shenandoah County</b>									
Countywide	20	2100EST			0	0		3.3K	Flood
	21	0600EST							

# Storm Data and Unusual Weather Phenomena

March 1998

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					Killed	Injured	Property	Crops	

## VIRGINIA, North

### **Culpeper County Countywide**

<b>20</b>	<b>2200EST</b>								
<b>21</b>	<b>0500EST</b>				<b>0</b>	<b>0</b>	<b>8K</b>		<b>Flood</b>

An area of deep low pressure over the southeastern U.S. moved slowly into the southern middle Atlantic region over a 24-hour period, then off the coast by evening of the 21st. The low, which entrained deep moisture from the Gulf of Mexico, aided in dumping storm total rainfall of 1 1/2 to 2 inches in the piedmont, with 2 to 3 inches in the Shenandoah Mountains and the Blue Ridge. The rain, falling onto saturated soil during a winter of wet weather, produced widespread small stream and creek flooding which closed over 100 roads in northern and central Virginia.

A portion of one of these roads, federal highway 50 in Frederick Co, was closed by a rock and mud slide near Gore. Road closures, mostly secondary, included 23 in Culpeper Co, 13 in Orange Co, 11 each in Madison and Shenandoah Co, and 10 in Clarke Co. Water was reported up to car windows in Monterey (Highland Co). A water rescue was necessary at Snickersville Gap (Loudoun Co) when a vehicle became stranded early on the 21st.

Minor river flooding (Rappahannock River) in southern Stafford Co occurred later that weekend; in all, portions of River Road were closed an estimated 20 percent of the time from January 1 through March 31, 1998. Closures were much more frequent in 1998 than for the same period in 1997.

### **VAZ057**

#### **King George**

<b>22</b>	<b>0800EST</b>								
					<b>0</b>	<b>0</b>	<b>150K</b>		<b>Rock Slide</b>

A portion of local route 627 slid down a cliff overlooking the Rappahannock River in southeastern King George Co. At least 1/2 the width of the road was removed. The rock slide, which occurred during benign weather, was partly due to repeated heavy rains, very moist soil, and minor flooding along the river during the winter of 1997/98. Major river and flash flood events in 1996 likely set the stage, over the long term, for the slide.

### **VAZ025>031- 036>042-050>057**

#### **Augusta - Rockingham - Shenandoah - Frederick - Page - Warren - Clarke - Nelson - Albemarle - Greene - Madison - Rappahannock - Fauquier - Loudoun - Orange - Culpeper - Prince William - Fairfax - Arlington - Stafford - Spotsylvania - King George**

<b>27</b>	<b>1500EST</b>								
<b>31</b>	<b>1800EST</b>				<b>0</b>	<b>0</b>			<b>Unseasonably Warm</b>

After a winter of cloudy, wet conditions, spring struck back with a vengeance in the form of strong atmospheric high pressure. Underneath the high, very warm and dry conditions developed - more like early June than late March. Three record high temperatures were set at IAD (VAZ042); on the 27th, 29th, and 31st, with readings of 84, 86, and 85 degrees, respectively. Temperatures in the central and northern Shenandoah Valley were the highest in 50 years for a similar time period. In Winchester (VAZ028), the maximum temperature of 86 degrees on the 29th was the highest on the date since 1948 (when the mercury reached 88 degrees). The dry and breezy conditions aided several small brush fires throughout the piedmont, but no major unplanned burns were noted.

## VIRGINIA, Northwest

### **VAZ003>004**

#### **Dickenson - Buchanan**

<b>10</b>	<b>0600EST</b>								
<b>13</b>	<b>0900EST</b>				<b>0</b>	<b>0</b>			<b>Cold</b>

This March cold snap was the coldest of the 97-98 winter for many communities in far western Virginia. Afternoon high temperatures were in the 20s. The morning low readings were mostly 10 to 15 degrees.

### **VAZ003>004**

#### **Dickenson - Buchanan**

<b>16</b>	<b>0000EST</b>								
	<b>0700EST</b>				<b>0</b>	<b>0</b>			<b>Snow</b>

Snow accumulations of 3 to 4 inches were common.

### **VAZ003>004**

#### **Dickenson - Buchanan**

<b>26</b>	<b>1200EST</b>								
<b>31</b>	<b>2100EST</b>				<b>0</b>	<b>0</b>			<b>Record Warmth</b>

A prolonged period of early spring heat caused afternoon temperatures in the 80s for the river valleys, with 70s across the mountains. The warmest temperatures occurred on the 30th, with Grundy reporting 88 degrees.

## VIRGINIA, Southwest

### **Halifax County Scottsburg**

<b>19</b>	<b>0540EST</b>								
	<b>0930EST</b>				<b>0</b>	<b>0</b>			<b>Flash Flood</b>

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<b>VIRGINIA, Southwest</b>									
<b>Halifax County</b> 3 N Paces	19	0600EST 0900EST			0	0			Flash Flood
Moderate to heavy rainfall resulted in flash flooding in portions of Halifax County.									
Route 613 near Scottsburg and Route 685 about three miles north of Paces were flooded by creeks.									
<b>VAZ058</b> <b>Halifax</b>	19	0830EST			0	0			Flood
	20	1400EST							
Heavy rainfall on the 18th and early morning hours on the 19th resulted in minor flooding on the lower portion of the Dan River. The Dan River crested almost two and a half feet above flood stage at 1700 EST on the 19th.									
<b>Grayson County</b> Rugby	20	0745EST			0	0	0		Thunderstorm Wind
Thunderstorm winds during the morning hours on the 20th knocked a tree onto a road near Rugby.									
<b>Montgomery County</b> Blacksburg Vpi Arpt	20	1020EST 1110EST			0	0			Flash Flood
<b>Roanoke (C)</b> Southwest Portion	20	1020EST 1110EST			0	0	200K		Flash Flood
<b>Pulaski County</b> Pulaski	20	1326EST			0	0			Hail (0.75)
<b>Pulaski County</b> Pulaski	20	1345EST 1515EST			0	0			Flash Flood
<b>Giles County</b> 5 ESE Pembroke	20	1430EST 1600EST			0	0			Flash Flood
<b>Montgomery County</b> 2 N Shawsville	20	1445EST 1615EST			0	0			Flash Flood
<b>Floyd County</b> Floyd	20	1455EST			0	0			Hail (0.75)
<b>Roanoke (C)</b> Roanoke	20	1530EST 1535EST			0	0			Hail (0.75)
<b>Henry County</b> 3 WSW Sandy Level to 2 W Sandy Level	20	1554EST 1556EST			0	0	0		Thunderstorm Wind
<b>Henry County</b> 2 W Sandy Level to 3 NNE Sandy Level	20	1556EST 1604EST	4	150	0	0	200K		Tornado (F1)
<b>Pittsylvania County</b> 3 NW Cascade to 2 W Whitmell	20	1604EST 1622EST	9	150	0	0	800K		Tornado (F1)
<b>Roanoke (C)</b> 1.5 S Roanoke	20	1605EST			0	0			Hail (0.75)
<b>Pittsylvania County</b> 3 E West Fork	20	1615EST			0	0			Hail (1.75)
<b>Bedford County</b> Montvale	20	1630EST 1745EST			0	0			Flash Flood
<b>Pittsylvania County</b> Callands	20	1630EST			0	0			Hail (0.75)
<b>Bedford County</b> 1 E Stewartsville	20	1645EST 1745EST			0	0			Flash Flood

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## **VIRGINIA, Southwest**

<b>Pittsylvania County</b> 6 S Chatham	20	1645EST			0	0			Hail (0.75)
<b>Pittsylvania County</b> Keeling	20	1730EST			0	0			Hail (1.75)
<b>Rockbridge County</b> 2 NE Brownsburg	20	1820EST			0	0			Flash Flood

Thunderstorms during the late morning and afternoon hours produced a tornado, flash flooding, hail up to golfball size, and damaging winds.

From the same storm that produced two tornadoes in North Carolina, a tornado formed about 2 miles west of Sandy Level in extreme southeastern Henry County and travelled northeast about 11 miles before dissipating about 2 miles west of Whitmell in Pittsylvania County. This tornado was generally from 100 to 200 yards wide, with damage in some areas up to 350 yards wide. This tornado damaged or destroyed several vehicles, barns, and outbuildings, and more than 60 residences, damaged two churches, and toppled trees and power lines. Some of the fallen trees blocked roads for a period of time.

Just before the tornado formed, trees and power lines were knocked down and large branches of trees were snapped off from the North Carolina border 3 miles west southwest of Sandy Level to 2 miles west of Sandy Level.

Heavy rainfall resulted in the flooding of a creek near the Virginia Tech Airport, flooding of Sinking Creek near route 460 about 5 miles east southeast of Pembroke, flooded routes 252 and 606 about 2 miles northeast of Brownsburg, and resulted in the closing of route 11 at two locations about two miles north of Shawsville.

The flooding of several creeks and streams in southwest Roanoke City, resulting in road closings and the flooding of several vehicles, a few residences, and two businesses. A portion of the first floor of a hotel was flooded.

In Bedford County, West Fork Creek flooded route 24 about a mile east of Stewartville and several roads in and near Montvale were flooded.

In Pulaski County, Peak Creek flooded a road in Pulaski.

<b>VAZ022-045-058&gt;059</b>	<b>Roanoke - Campbell - Halifax - Charlotte</b>								
	20	1800EST			0	0			Flood
	24	1200EST							

Heavy rainfall on the 19th and 20th resulted in minor to moderate flooding on portions of the Roanoke River.

The Roanoke River crested three feet above flood stage at Roanoke around 0315 EST on the 21st, almost four feet above flood stage at Brookneal at 0500 EST on the 21st, and almost five and a half feet above flood stage at Randolph at 0600 EST on the 22nd.

<b>Pittsylvania County</b> Chatham	20	2045EST			0	1			Lightning
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Lightning during an evening thunderstorm on the 20th injured a man. On the west side of Chatham, a man who was outside during a thunderstorm was injured by a lightning strike.

<b>VAZ058</b>	<b>Halifax</b>								
	20	2330EST			0	0			Flood
	23	0730EST							

Heavy rainfall on the 20th in combination with the lower portion of the Dan River just under flood stage from heavy rains on the 18th and 19th resulted in minor flooding again at South Boston. The Dan River crested almost three and a half feet above flood stage at 0300 EST on the 22nd.

<b>Salem County</b> Salem	21	0020EST 0200EST			0	0			Flash Flood
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<b>Rockbridge County</b> 2 S Raphine	21	0200EST			0	0	20K		Lightning
---	----	---------	--	--	---	---	-----	--	-----------

Heavy rainfall again developed during the late evening hours on the 20th and resulted in flash flooding in Salem and damaging lighting in Rockbridge County.

Flash flooding resulted in the evacuation of the Riverland Trailer Park in Salem. A lightning strike started a fire which severely damaged a home two miles south of Raphine.

<b>VAZ007</b>	<b>Tazewell</b>								
	21	0100EST 1500EST			0	0			Flood

Heavy rainfall during the afternoon and evening hours on the 20th resulted in minor flooding on the Clinch River at Richlands. The

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## VIRGINIA, Southwest

Clinch River crested over two and a half feet above flood stage at Richlands at 0700 EST on the 21st.

**VAZ047**

**Buckingham**

21 0100EST

0

0

**Flood**

23 1400EST

Heavy rainfall on the 20th in combination with high river levels from heavy rain on the 18th and 19th resulted in moderate flooding on the James River at Brems Bluff. The James River crested almost six feet above flood stage at Brems Bluff around 0600 EST on the 22nd.

**VAZ023**

**Botetourt**

21 0300EST

0

0

**Flood**

22 0400EST

Heavy rainfall on the 20th resulted in minor flooding on the James River at Buchanan. The James River crested almost 2 feet above flood stage at Buchanan around 1845EST on the 21st.

## WASHINGTON, Northeast

NONE REPORTED.

## WASHINGTON, Northwest

NONE REPORTED.

## WASHINGTON, Southeast

**WAZ029**

**Blue Mountain Foothills**

26 1200PST

0

0

**Heavy Snow**

27 0540PST

Five inches of snow fell 20 miles south of Dayton at an elevation of 4600 feet.

## WASHINGTON, Southwest

NONE REPORTED.

## WEST VIRGINIA, East

**WVZ048>053**

**Grant - Mineral - Hampshire - Morgan - Berkeley - Jefferson**

11 0700EST

0

0

**Unseasonably Cold**

13 0700EST

A series of cold fronts ushered in only the second arctic air mass of the winter of 1997/98. The unseasonably cold air, arriving on the heels of a mild and wet February, may have caused minor damage to peach crops in eastern West Virginia orchards. The combination of mild and moist conditions earlier in the winter not only led to accelerated bud growth, but may have decreased the resistance of fruit trees to the hard freeze.

Temperatures on the 11th were generally in the upper teens to lower 20s, but readings were well down in the teens on the 12th and 13th.

**Berkeley County**

Countywide

20 2100EST

0

0

2.5K

**Flood**

21 0900EST

**Jefferson County**

Countywide

20 2100EST

0

0

2.5K

**Flood**

21 0900EST

**Grant County**

Countywide

20 2200EST

0

0

5K

**Flood**

21 0600EST

**Hardy County**

Countywide

20 2200EST

0

0

**Flood**

21 0600EST

**Pendleton County**

North Portion

20 2200EST

0

0

10K

**Flood**

21 0600EST

An area of deep low pressure over the southeastern U.S. moved slowly into the southern middle Atlantic region in a 24-hour period from the morning of the 20th through the morning of the 21st, then off the coast by evening of the 21st. The low, which entrained deep moisture from the Gulf of Mexico, aided in dumping storm total rainfall of 1 to 2 inches, with perhaps higher totals along the Allegheny divide. The rain, falling onto saturated soil in a winter of wet weather, produced areas of small stream and creek flooding - as well as high standing water - which closed several roads.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## WEST VIRGINIA, East

A mudslide affected federal highway 220 near the Grant/Pendleton Co line. Otherwise, several streams and creeks were at or just above bankful in Grant Co. Elsewhere, a combination of 22 primary and secondary roads were closed in Berkeley and Jefferson Cos, including state highways 51, 9, and 7 (all in Jefferson Co). At least two water rescues were required; one along the Berkeley/Jefferson Co line when a man was stranded in a van on a water-covered bridge (Sulphur Springs Road); the other a woman who was attempting to drive through a foot of standing water on Henshaw Road in southern Berkeley Co. Some basement flooding was reported in the panhandle, and a few small streams and creeks were out of their banks.

**WVZ051>053**

**Morgan - Berkeley - Jefferson**

27	1500EST	0	0		<b>Unseasonably Warm</b>
31	1800EST				

After a winter of cloudy, wet conditions, spring struck back with a vengeance in the form of strong atmospheric high pressure. Underneath the high, very warm and dry weather developed - more like early June than late March. Daytime high temperatures averaged in the low to mid 80s and nighttime lows were equally balmy - in the mid to upper 50s. The dry and breezy conditions aided several small brush fires, but no major unplanned burns were noted.

## WEST VIRGINIA, North

**WVZ023-041**

**Preston - Tucker**

10	0500EST	0	0		<b>Winter Storm</b>
11	1300EST				

Blustery northwest winds brought heavy snow and some blowing and drifting snow to parts of northern West Virginia. The highest amounts fell in the higher elevations.

## WEST VIRGINIA, Southeast

NONE REPORTED.

## WEST VIRGINIA, West

**WVZ016-029>031**

**Roane - Gilmer - Lewis - Harrison**

09	0400EST	0	0	25K	<b>Wind</b>
	0630EST				

Wind gusts of 35 to 50 mph were associated with a cold front. Near Amma of Roane County, a common roof over side by side mobile homes was damaged. At Ben Dale of Lewis County, a block wall under construction at a new water treatment plant was blown down. In Glenville of Gilmer County, roof material from mobile homes were ripped off. The debris damaged a nearby car and siding to a home. A few trees were downed in Harrison County.

**WVZ005>011-013>020-024>040-046>047**

**Wayne - Cabell - Mason - Jackson - Wood - Pleasants - Tyler - Lincoln - Putnam - Kanawha - Roane - Wirt - Calhoun - Ritchie - Doddridge - Mingo - Logan - Boone - Clay - Braxton - Gilmer - Lewis - Harrison - Taylor - Mcdowell - Wyoming - Raleigh - Fayette - Nicholas - Webster - Upshur - Barbour - Pocahontas - Randolph**

10	0600EST	0	0		<b>Cold</b>
13	0900EST				

For most counties, this was the coldest weather of the winter. Afternoon temperatures were in the 20s across the lowlands. The high temperature in the high mountains at Snowshoe during the day on the 12th was only 10 degrees. At dawn on Friday the 13th, the coldest was 4 below zero at Gladly.

**WVZ033**

**Mcdowell**

16	0000EST	0	0		<b>Snow</b>
	0700EST				

Snow accumulations of 2 to 4 inches were measured.

**Fayette County**

Pax to	2000EST	0	0	12K	<b>Flash Flood</b>
Montgomery	0600EST				

**Kanawha County**

Montgomery to	2000EST	0	0	15K	<b>Flash Flood</b>
Clendenin	0600EST				

**Roane County**

Countywide	2030EST	0	0	5K	<b>Flash Flood</b>
	0500EST				

**Braxton County**

Centralia	2100EST	0	0	5K	<b>Flash Flood</b>
	2330EST				

**Webster County**

Camden On Gauley to	2100EST	0	0	5K	<b>Flash Flood</b>
Guardian	2330EST				

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## WEST VIRGINIA, West

### **McDowell County Countywide**

	20	2330EST			0	0	15K	
	21	0600EST						Flash Flood

Rains of 1.5 to 2 inches from 3 separate periods, fell on a saturated ground over a 24 hour period. The last shot of rain caused minor flooding on numerous small streams and creeks. Many secondary roads were closed. Some of the affected streams included Big Sandy, Spring, and Reedy Creeks in Roane County, Armstrong and Paint Creeks in Fayette County, plus Blue and Kelly Creeks in Kanawha County. The headwaters of the Tug Fork River in McDowell County rose to 12 feet at Welch. Bankfull is 10 feet. No evacuations were needed.

### **WVZ005>011- 013>020-024>040- 046>047**

	26	1200EST			0	0		
	31	2100EST						Record Warmth

An unusually prolong stretch of early spring heat lasted 6 consecutive days, The warmest readings occurred on the afternoon of the 30th and 31st. Afternoon temperatures were in the 80s for the lowlands, with 70s across the mountainous counties. The growth of the new spring vegetation accelerated across the lowlands.

## WISCONSIN, Extreme Southwest

NONE REPORTED.

## WISCONSIN, Northeast

### **WIZ013-021>022-031- 035>040-045-048>050**

	08	0600CST			0	0		
	09	0600CST						Winter Storm

A late winter storm brought heavy snowfall and strong winds to central and northeast Wisconsin March 8-9. The greatest amounts fell in central Wisconsin. Wautoma (Waushara co.) reported 11.0 inches. Winds gusting above 30 mph caused considerable drifting. The strong winds blew ice and snow covered tree limbs onto power lines, resulting in power outages in several counties. Numerous traffic accidents were attributed to poor road conditions.

### **WIZ013-021>022- 038>040-048>050**

	09	0600CST 2200CST			0	0	15K	
								High Wind

### **WIZ031-036>037-045**

	09	0600CST 2200CST			0	0		
								Strong Wind

Strong winds developed as a winter storm, which brought snow to northeast and central Wisconsin, moved away from the state. Official wind gusts reached 61 mph in Gills Rock (Door co.), 45 mph in Green Bay, 49 mph in Manitowoc (Manitowoc co.) and 46 mph in Oshkosh (Winnebago co.). An unofficial gust of 55 mph was reported in Appleton (Outagamie co.). The strong winds knocked some power poles down and blew tree limbs onto power lines, causing power outages. The wind also whipped the new snow around, producing low visibilities.

### **WIZ005**

	13	0400CST 2300CST			0	0		
								Heavy Snow

Snow fell across much of northern and central Wisconsin on March 13, but the heaviest totals fell in the far north-central part of the state, where it was enhanced by Lake Superior. Presque Isle received 8.5 inches.

### **WIZ010>013-018>022- 030>031-035>036**

	17	2100CST			0	0		
	19	0900CST						Winter Storm

Yet another late winter storm affected central and northeast Wisconsin. A prolonged storm dropped a band of 6 to 10 inches of wet snow, beginning on the 17th. Ten inches was recorded in Wausau (Marathon co.) and 9.0 inches in Wausaukee (Marinette co.). Over east-central Wisconsin, a mix of snow, sleet and freezing rain occurred.

### **Waushara County Plainfield**

	29	1005CST			0	0		Hail (0.75)
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### **Portage County Bancroft**

	29	1055CST			0	0		Hail (0.88)
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### **Waushara County 10 W Wild Rose**

	29	1100CST			0	0		Hail (1.75)
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# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b>WISCONSIN, Northeast</b>									
<b>Waushara County</b>									
Wautoma	29	1108CST			0	0			Hail (0.75)
<b>Portage County</b>									
8 S Amherst	29	1110CST			0	0			Hail (0.75)
<b>Waushara County</b>									
2 SW Wild Rose	29	1110CST			0	1			Hail (1.75)
<b>Waushara County</b>									
West Bloomfield	29	1129CST			0	0			Hail (1.75)
<b>Waupaca County</b>									
Fremont	29	1140CST			0	0			Hail (1.75)
<b>Shawano County</b>									
Shawano	29	1149CST			0	1			Lightning
<b>Winnebago County</b>									
Winchester	29	1149CST			0	0			Hail (2.00)
<b>Winnebago County</b>									
Menasha	29	1200CST			0	0			Hail (1.50)
<b>Outagamie County</b>									
3 W Appleton	29	1203CST			0	0			Hail (2.00)
<b>Calumet County</b>									
Appleton	29	1210CST			0	0			Hail (1.75)
<b>Outagamie County</b>									
1 W Appleton to Appleton	29	1210CST 1212CST			0	0			Hail (2.50)
<b>Outagamie County</b>									
Darboy	29	1215CST			0	0			Hail (1.00)
<b>Calumet County</b>									
St John	29	1225CST			0	0			Hail (4.00)
<b>Brown County</b>									
3 E Wrightstown	29	1240CST			0	0			Hail (2.75)
<b>Brown County</b>									
Greenleaf	29	1245CST			0	0			Hail (2.75)
<b>Wood County</b>									
Pittsville	29	1254CST			0	0			Hail (0.75)
<b>Manitowoc County</b>									
Cooperstown	29	1305CST			0	0			Hail (0.75)
<b>Wood County</b>									
Vesper	29	1305CST			0	0			Hail (1.00)
<b>Kewaunee County</b>									
Norman	29	1310CST			0	0			Hail (1.00)
<b>Shawano County</b>									
Tilleda	29	1425CST			0	0			Hail (0.75)
<b>Menominee (C)</b>									
Keshena	29	1432CST			0	0			Hail (0.75)
<b>Oconto County</b>									
Gillett	29	1452CST			0	0			Hail (1.75)
<b>Oconto County</b>									
1 S Lena	29	1512CST			0	0			Hail (1.75)
<b>Oconto County</b>									
1 N Oconto	29	1515CST			0	1			Hail (2.75)
<b>Marinette County</b>									
6 SE Peshtigo	29	1535CST			0	0			Hail (0.88)
<b>Door County</b>									
Baileys Harbor	29	1605CST			0	0			Hail (0.75)

Two prolific hail-producing thunderstorms dropped hail as large as baseballs and grapefruits across parts of central and east-central Wisconsin during the late morning and afternoon of March 29. It was the worst hailstorm ever, in terms of damage, to strike the Appleton area. A car dealership in Appleton reported damage to over 1000 cars on the lot. Insurance companies reported over 3000

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## WISCONSIN, Northeast

vehicle claims from policy holders. One insurance company reported damage to more than 100 insured homes. Total damage to property from the storms in Waushara, Winnebago, Outagamie, Brown and Calumet counties topped \$10 million. Due to the time of year, cash crop damage was minimal. An elderly women near Wild Rose (Waushara co.) was injured by golfball-size hail when she was caught outside as the storm struck. A women was injured near Oconto (Oconto co.) when a hailstone hit her shoulder.

Lightning struck a couple in Shawano (Shawano co.) while they were in their back yard, tending to their garden. The male sustained burns to 70 percent of his body. His wife was about 15 feet away from him and was knocked down by the bolt. She was not injured.

<b>Lincoln County</b> 3 W Tomahawk to 3 N Tomahawk	29	1928CST 1935CST	4.5	75	0	0	15K		<b>Tornado (F0)</b>
<b>Lincoln County</b> Tomahawk	29	1942CST			0	0	15K		<b>Thunderstorm Wind (G61)</b>
<b>Oneida County</b> Harshaw	29	1945CST			0	0			<b>Thunderstorm Wind (G57)</b>
<b>Lincoln County</b> Tomahawk	29	1947CST			0	0			<b>Hail (1.25)</b>
<b>Oneida County</b> 1 W Rhinelander to Rhinelander	29	1957CST 2000CST			0	0			<b>Hail (0.88)</b>

A large thunderstorm produced wind gusts to 70 mph and a weak tornado across north-central Wisconsin during the evening of March 29. Hundreds of trees were blown down by straight line winds, causing minor roof damage to several structures. The weak tornado damaged several sheds, garages and a pole building west of Tomahawk (Lincoln co.). The storm also downed many power poles, disrupting power to thousands of customers.

## **WIZ039**

### **Brown**

31	1900CST 2359CST			0	0				<b>Flood</b>
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Thunderstorms with locally heavy rain caused the Duck Creek to rise above flood stage late on March 31. The flooding continued into early April. Flooding was confined to areas adjacent to the creek, but no damage was reported.

## WISCONSIN, Northwest

### **WIZ004**

#### **Iron**

10	0700CST			0	0				<b>Heavy Snow</b>
11	0700CST								

A very localized lake effect snow event dropped 15 inches of new snow on Gurney. Surrounding areas received 3 inches or less.

### **WIZ003>004**

#### **Ashland - Iron**

13	2045CST			0	0				<b>Heavy Snow</b>
14	0545CST								

Heavy lake effect snow fell in the snow belt of Ashland and Iron Counties. The largest amount reported was 14 inches in Upson. Glidden received 8 inches.

### **WIZ004**

#### **Iron**

14	1015CST 1545CST			0	0				<b>Heavy Snow</b>
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Heavy lake effect snow fell over northern Iron County, with Saxon reporting 18 inches.

## WISCONSIN, Southeast

### **WIZ046>047-056>058-062>063-067>068** - Marquette - Green Lake - Sauk - Columbia - Dodge - Iowa - Dane - Lafayette - Green

08	0400CST			0	0				<b>Winter Storm</b>
09	0900CST								

A powerful winter storm, possessing near blizzard conditions, brought parts of southcentral and southeast Wisconsin to a standstill. The combination of heavy, wet snow, and northeast winds gusting to 40 to 50 mph, reduced visibilities occasionally to below 1/4 mile and created huge drifts of 8 to 15 feet in areas west and southwest of Madison (Dane Co.). Based on newspaper accounts, there were probably 800 motor vehicle accidents, dozens of toppled power lines, many school closings, and many road closures. Interstate 90/94 and State Highway 51 north of Madison were closed at the height of the storm during the afternoon and evening hours on the 30th. In addition, there were many airline flights and other commercial activities postponed or cancelled.

Specific snowfall totals include: 10.5 inches in northeast Iowa county and northcentral Dane Co.; 10.2 inches at Middleton (Dane Co.); 10 inches in northwest Lafayette, southern Sauk, and southern Columbia counties; 9 to 10 inches in the northern portions of Marquette and Green Lake counties; 7 to 8 inches in westcentral Dodge and northwest Green counties; and 7.3 inches at the Madison/Dane County Regional Airport.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## WISCONSIN, Southeast

The storm was the result of a "pan-handle hook" low pressure which traveled from southeast Colorado to northeast Texas and then recurved back through northwest Ohio. Copious amounts of Gulf of Mexico moisture were available for the storm (dewpoints in the middle 50s into southern Indiana).

**WIZ051>052-059>060-064>066-069>072** **Fond Du Lac - Sheboygan - Washington - Ozaukee - Jefferson - Waukesha - Milwaukee - Rock - Walworth - Racine - Kenosha**  
**08 1800CST** **0 0 215K High Wind**  
**09 1000CST**

Powerful winds, gusting to 64 mph, raked parts of eastcentral and southeast Wisconsin, resulting in many cases of toppled trees and powerlines, as well as some structural damage. In addition, snow accumulations of 1 to 5 inches occurred. The high winds were part of the winter storm system which left 10 to 12 inches of snow over southwest, southcentral and central Wisconsin. In the city of Sheboygan, the winds blew over a 16 foot by 16 foot construction wall. In addition, large tree branches fell on a couple cars in Sheboygan. In Fond du Lac, Ozaukee, Jefferson, Waukesha, and Milwaukee counties, about 6,000 customers were without electrical power after the high winds toppled large trees or tree branches onto power lines. In Hartford (Washington Co.), the high winds knocked large trees branches on to a home's roof and totaled a parked car. The high winds pushed large trees onto two homes in the Lake Geneva (Walworth Co.) area. One sustained moderate damage, while the other one had minor damage. There were many other reports of uprooted trees and downed power lines in Walworth county. In addition, the winds peeled a piece of plywood off a building in Deavan (Walworth Co.). It was the same story in Rock county with regards to trees and powerlines. A peak gust of 64 mph was registered at the Rock County Airport (JVL).

Racine and Kenosha counties appeared to suffer the wrath of the storm more so than other counties. Groaning winds (up to 58 mph on the Racine lakefront) combined with snow and sleet to bring down many trees and powerlines across the two counties. Nearly 34,000 customers were without electrical service or heat on the 9th. Some schools, factories, and government facilities were also closed. Huge waves of 10 to 12 feet pounded the lakeshore areas, resulting in beach/shoreline erosion. Also, large rocks and ice chunks were pushed by the waves onto nearby roads. The high winds even pushed a Racine police squad car sideways several feet on an icy road. At least 400 motor vehicle accidents were reported in these two counties due to the slippery roads. In downtown Racine, some siding on a 153 foot tall buildings was loosened by the winds, but no one was injured.

**WIZ051-066-071>072** **Fond Du Lac - Milwaukee - Racine - Kenosha**  
**26 0600CST** **0 0 Record Warmth**  
**1900CST**

The combination of sunshine and dry southwest winds of 15 to 30 mph was enough to push temperatures to new record levels across parts of southeast and eastcentral Wisconsin. Milwaukee Mitchell Field peaked at 75 degrees, breaking the old daily record of 72 set in 1968. The city of Fond du Lac peaked at 72 degrees, breaking the old on of 70 set in 1968. Racine also set a new record of 76, while in Kenosha, a max of 74 broke the old record of 72. This was the first time this part of the state was in the 70s since October 13, 1997. In addition, Milwaukee set a new record high minimum of 57 at 0640 CST on the 26th, breaking the old record of 49 set back in 1945. Milwaukee also tied the record high minimum of 58 set in 1989 for the next day, March 27th.

<b>Dane County</b>									
Madison	30	0600CST			0	0			Urban/Sml Stream Fld
	31	1200CST							
<b>Green County</b>									
Monticello	30	0600CST			0	0			Urban/Sml Stream Fld
	31	1200CST							
<b>Iowa County</b>									
Dodgeville	30	0600CST			0	0	10K		Urban/Sml Stream Fld
	31	1200CST							
<b>Lafayette County</b>									
Calamine	30	0600CST			0	0			Urban/Sml Stream Fld
	31	1200CST							
<b>Sauk County</b>									
1 NE Hillpt to	30	0600CST			0	0			Urban/Sml Stream Fld
4 E Baraboo	31	1200CST							
<b>Sheboygan County</b>									
4 N Johnsonville to	30	0600CST			0	0			Urban/Sml Stream Fld
Sheboygan	31	1200CST							
<b>Sheboygan County</b>									
1 NW Elkhart Lake	30	1810CST			0	0			Hail (1.00)
<b>Sheboygan County</b>									
1.3 S Hingham	30	1815CST			0	0			Hail (0.75)

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## WISCONSIN, Southeast

### **Washington County Kewaskum**

**30 1818CST 0 0 Hail (1.00)**

A series of showers and thunderstorms dumped heavy rains and small hail (1/4 to 1/2 inch in diameter) on already saturated soils over southcentral, southeast, and eastcentral Wisconsin, resulting in scattered reports of urban and small stream flooding. Most of the storms occurred between 1500CST and 2345CST on the 30th. The storms became severe when they deposited large hail at a couple locations in Sheboygan county, and one in Washington county.

The flooding wasn't serious, but it did cause an inconvenience for many people. Rainfall totals between 0600CST on the 30th to 0600CST on the 31st were about 4 inches north of Johnsonville (Sheboygan Co.), 3.8 inches in Baraboo (Sauk Co.), 3.7 inches in Dodgeville (Iowa Co.), 3.6 inches in Portage (Columbia Co.), 3.5 inches in Sheboygan (Sheboygan Co.), 3.4 inches in Wisconsin Dells (Columbia Co.), 3.1 inches in Fond du Lac (Fond du Lac Co.), and 3.03 inches in Madison (Dane Co.). Totals of 2 to 3 inches fell over the southeast counties between Milwaukee and Kenosha.

Madison (Dane Co.) police reported minor urban street flooding and brief, scattered power outages during the evening of March 30th as thunderstorms rolled through the city. Lowlands flooded east of Monticello (Green Co.) as the Little Sugar river left its banks. Some homes and one business in Monticello reported minor flooding in basements. Some roads in Dodgeville (Iowa Co.) were impassable as water filled area streets. A couple gravel roads near Dodgeville had washouts due to the flooding waters. Observed rainfall rates were as much as 1 inch in 10 minutes in southwest Iowa county near Livingston. The ground was covered white with small hail in the Dodgeville area. Rising waters on the Pecatonica River in Lafayette county resulted in the closure of Ferndale Rd. north of Calamine, and County H near Blanchardville. West of Rock Springs (Sauk Co.), some roads were closed due to high water levels at the junction of Narrows Creek and the Baraboo River. Lowland flooding was reported along much of Narrows Creek and along the Baraboo River from Reedsburg (Sauk Co.) to east of the city of Baraboo. Manhole covers "popped" in Baraboo. A few motorists got stuck in high waters on Highway 154 west of Rock Springs. At Lakeland College north of Johnsonville (Sheboygan Co.), the heavy rains flooded the campus wastewater treatment building, submerged the pumps and motors and causing the entire system to shut down. This then resulted in a sewage backup problem, and classes were cancelled for one day. On the west side of the city of Sheboygan, up to 7 inches of water covered some roads.

Many of the mainstem rivers and other streams in southcentral, southeast, and eastcentral Wisconsin rose to bankfull levels or exceeded them by 1 to 3 feet due to the March 30-31 heavy rains on top of saturated soils. Although flooding was rated as minor, water levels remained at or near flood stage from the end of March through much of April. In fact, at some scattered spots, water levels remained high until May 11th!

## WISCONSIN, Southwest

### **WIZ043>044-053>055- Juneau - Adams - Vernon - Crawford - Richland - Grant 061**

**08 0500CST 2100CST 0 0 Winter Storm**

6 to 12 inches of snow was common with amounts up to 14 inches in areas along and south of the Wisconsin River. The deep snow, combined with strong north winds, created 3 foot drifts and reduced visibility to near zero at times.

### **WIZ017**

**Taylor  
18 0100CST 2200CST 0 0 Winter Storm**

6 to 8 inches of snow fell around Medford and points east and south. Strong winds accompanying the snow created 2 to 3 foot drifts.

### **Juneau County**

**New Miner 29 1018CST 0 0 Hail (1.75)**

### **Adams County**

**3 S New Rome 29 1027CST 0 0 8K Thunderstorm Wind (G52)**

### **Adams County**

**New Rome 29 1030CST 0 0 100K Hail (1.75)**

### **Taylor County**

**Lublin 29 1356CST 0 0 Hail (0.75)**

### **Taylor County**

**Medford 29 1418CST 0 0 15K Hail (1.00)**

### **Taylor County**

**Medford 29 1430CST 0 0 Hail (0.75)**

### **Buffalo County**

**Cochrane 29 1435CST 0 0 10K Hail (1.50)**

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>WISCONSIN, Southwest</u></b>									
<b>La Crosse County</b>									
Barre Mills	29	1505CST			0	0	10K		Hail (1.00)
<b>Trempealeau County</b>									
Osseo	29	1510CST			0	0			Hail (0.75)
<b>Buffalo County</b>									
Alma	29	1651CST			0	0			Hail (0.75)
<b>Buffalo County</b>									
Nelson	29	1700CST			0	0			Hail (0.75)
<b>Buffalo County</b>									
1 S Maxville to 5 E Maxville	29	1715CST 1720CST	4	50	0	0			Tornado (F0)
<b>Clark County</b>									
3 W Thorp	29	1915CST			0	0			Hail (0.75)
									Dime to golf ball size hail was reported by storm spotters and law enforcement officials. A tornado touched down briefly near Maxville, but no injuries or damage was reported.
<b>Grant County</b>									
Glenhaven	30	1407CST			0	0			Hail (0.75)
<b>Grant County</b>									
5 S Lancaster	30	1520CST			0	0			Hail (1.75)
<b>Grant County</b>									
3 W Livingston	30	1842CST			0	0			Hail (0.75)
<b>Grant County</b>									
Muscoda	30	1745CST 1955CST			0	0	2K		Urban/Sml Stream Fld
<b>Richland County</b>									
Richland Center to 10 S Richland Center	30	1745CST 1955CST			0	0			Urban/Sml Stream Fld
									3 inches of rain in a couple of hours caused mud slides and small streams to overflow their banks. A charter bus carrying the University of Wisconsin Band sustained minor damage when it hit a mud slide on Highway 60 near Muscoda.
<b><u>WISCONSIN, West</u></b>									
<b>Pierce County</b>									
Ellsworth	29	1540CST			0	0			Hail (0.75)
									Hail covered the ground.
<b>St. Croix County</b>									
Woodville	29	1604CST			0	0			Hail (0.75)
<b>Dunn County</b>									
Boyceville	29	1630CST			0	0			Hail (1.00)
<b>Pepin County</b>									
Durand	29	1723CST			0	0			Hail (0.75)
<b>Eau Claire County</b>									
10 SW Eau Claire	29	1734CST			0	0			Hail (0.75)
<b>Pepin County</b>									
12 E Durand	29	1735CST			0	0			Thunderstorm Wind (G50)
									Barn blown down. Estimated windspeed.
<b>Eau Claire County</b>									
Eau Claire	29	1753CST			0	0			Hail (1.75)
<b>Pierce County</b>									
13 E Ellsworth	29	1755CST			0	0			Hail (1.00)
<b>Chippewa County</b>									
Chippewa Falls	29	1800CST			0	0			Hail (0.75)
<b>Chippewa County</b>									
Chippewa Falls	29	1805CST			0	0			Hail (1.75)
									Automobiles damaged.
<b>Chippewa County</b>									
2 SE Chippewa Falls	29	1805CST			0	0			Lightning
									Motel fire caused by lightning.

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm	
					Killed	Injured	Property	Crops		
<b><u>WISCONSIN, West</u></b>										
Chippewa County Stanley	29	1805CST			0	0			Hail (0.75)	
Chippewa County Jim Falls	29	1810CST			0	0			Hail (1.25)	
<b><u>WYOMING, Central and West</u></b>										
WYZ005-009-026	North Big Horn Basin - South Big Horn Basin - Western Big Horn Mountains					0	0		Winter Storm	
	03	2200MST								
	04	1600MST								
	Heavy snow and considerable blowing and drifting over central and southern sections of the Big Horn Basin and western slopes of the Big Horn Mountains. Schools closed in southern Big Horn County. Up to 8 inches of snow in parts of the Basin, with over a foot of new snow in the mountains.									
WYZ008>009- 012>014-022>023	Owl Creek Mountains - South Big Horn Basin - Lander Foothills - Wind River Basin - Green Mountains - Rock Springs/Green River - Red Desert					0	0		Winter Storm	
	17	1600MST								
	18	1500MST								
	Heavy snow, considerable blowing and drifting across parts of southwest and central Wyoming. Schools, businesses, roads closed in Fremont, Hot Springs and Sweetwater Counties. First time some schools had been closed for many years in Fremont County. Power outages in sections of Fremont County. Five to six foot drifts reported in parts of Sweetwater County, with I-80 closed until the morning of the 19th.									
WYZ004-008>009- 011>013-015>016-018	Cody Foothills - Owl Creek Mountains - South Big Horn Basin - Wind River Mtns East - Lander Foothills - Wind River Basin - Natrona - Star Valley - Kemmerer					0	0		Heavy Snow	
	28	1700MST								
	29	1700MST								
	Heavy snow with little wind. Heaviest amounts of snow reported were over 2 feet in Sinks Canyon southwest of Lander, 1 to 1 1/2 feet in the Lander and Thermopolis areas, and near a foot in the Riverton and Casper areas.									
<b><u>WYOMING, Extreme Southwest</u></b>										
	NONE REPORTED.									
<b><u>WYOMING, North Central</u></b>										
WYZ099	Sheridan Foothills					0	0		Heavy Snow	
	28	1000MST								
	29	1900MST								
	An early season spring storm dumped heavy snow across the Sheridan Foothills from the morning of March 28 to the evening of March 29. There were several reports of 4 to 6 inches of snow.									
<b><u>WYOMING, Northeast</u></b>										
WYZ054-056>057	Gillette - Moorcroft - Wyoming Black Hills					0	0		Heavy Snow	
	04	0400MST								
		1600MST								
	A heavy snow event occurred during the early morning and afternoon hours resulting in snow amounts of five to eight inches over northeast Wyoming including the Wyoming Black Hills.									
WYZ054>058	Gillette - South Campbell - Moorcroft - Wyoming Black Hills - Weston					0	0		Winter Storm	
	28	1000MST								
	29	1800MST								
	A weekend snow storm produced anywhere from six to twelve inches of wet snow over northeast Wyoming. The heaviest snow fell over central campbell county, around Gillette where 12 inch accumulations were common.									
<b><u>WYOMING, Southeast</u></b>										
WYZ059>063-067	Converse - Niobrara - Southwest Carbon - North Carbon - Snowy Range - Platte					0	19	65K	0	Winter Storm
	06	0500MST								
	07	2300MST								
	A winter storm affected parts of southeast Wyoming, with a total of 11 inches of snowfall reported in Rawlins, 10 inches at Lusk and Hanna, and 8 inches of snowfall was reported across Platte county. The Wyoming Highway Patrol received 19 reports of automobile accidents involving injuries due to snow packed roads, and another 90 accidents without injuries between midnight and 715 pm.									
WYZ061-063-066	Southwest Carbon - Snowy Range - Laramie Range					0	0	0	0	Winter Storm
	18	0600MST								
		1600MST								

# Storm Data and Unusual Weather Phenomena

March 1998

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

**WYOMING, Southeast**

A winter storm moved across the southeast mountains, with the Snowy Range and the Laramie range receiving 8 inches of new snowfall. The Snowy Range Ski area received 13 inches of snowfall.

**Goshen County**

**9 WNW Torrington**

<b>28</b>	<b>1440MST</b>				<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Funnel Cloud</b>
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A brief funnel cloud was reported by the public.

## STORM DAMAGE CATEGORIES

## REFERENCE NOTES

1	Less than \$50	0 / Blank	None reported.
2	\$50 to \$500	*	Miles instead of yards.
3	\$500 to \$5,000	**	Yards instead of miles.
4	\$5,000 to \$50,000	@	Includes heavy sleet storm.
5	\$50,000 to \$500,000	#	Freezing drizzle and freezing rain, commonly known as glaze.
6	\$500,000 to \$5 Million	=	Report incomplete.
7	\$5 Million to \$50 Million	= =	Report not received.
8	\$50 Million to \$500 Million		
9	\$500 Million to \$5 Billion	o/c	Indicates Crop Damage amount is included in the value give for property damage.

When reports are not received or are incomplete, the Storm Summary National Death and Injury totals may also be incomplete.

## Definition of Fujita Tornado Scale ( F Scale )

(F0) Gale tornado (40-72 mph) : Light damage; Some damage to chimneys; break branches off trees; push over shallow-rooted trees; signs and billboards damaged.

(F1) Moderate tornado (73-112 mph): Moderate damage; The lower limit (73 mph) is the beginning of hurricane wind speed; peel surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the roads.

(F2) Significant tornado (113-157 mph): Considerable damage; Roofs torn from frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light-object missiles generated.

(F3) Severe tornado (158-206 mph): Severe damage; Roofs and some walls torn from well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off ground and thrown.

(F4) Devastating tornado (207-260 mph): Devastating damage; Well-constructed houses leveled; structure with weak foundations blown off some distance; cars thrown and large missiles generated.

(F5) Incredible tornado (261-318 mph): Incredible damage; Strong frame houses lifted from foundation and carried considerable distance to disintegrate; automobile-sized missiles fly through the air in excess of 100 meters; trees debarked; incredible phenomena will occur.

(F6-F12) (319 mph to Mach 1, the speed of sound): The maximum wind speeds of tornadoes are not expected to reach the F6 wind speeds.

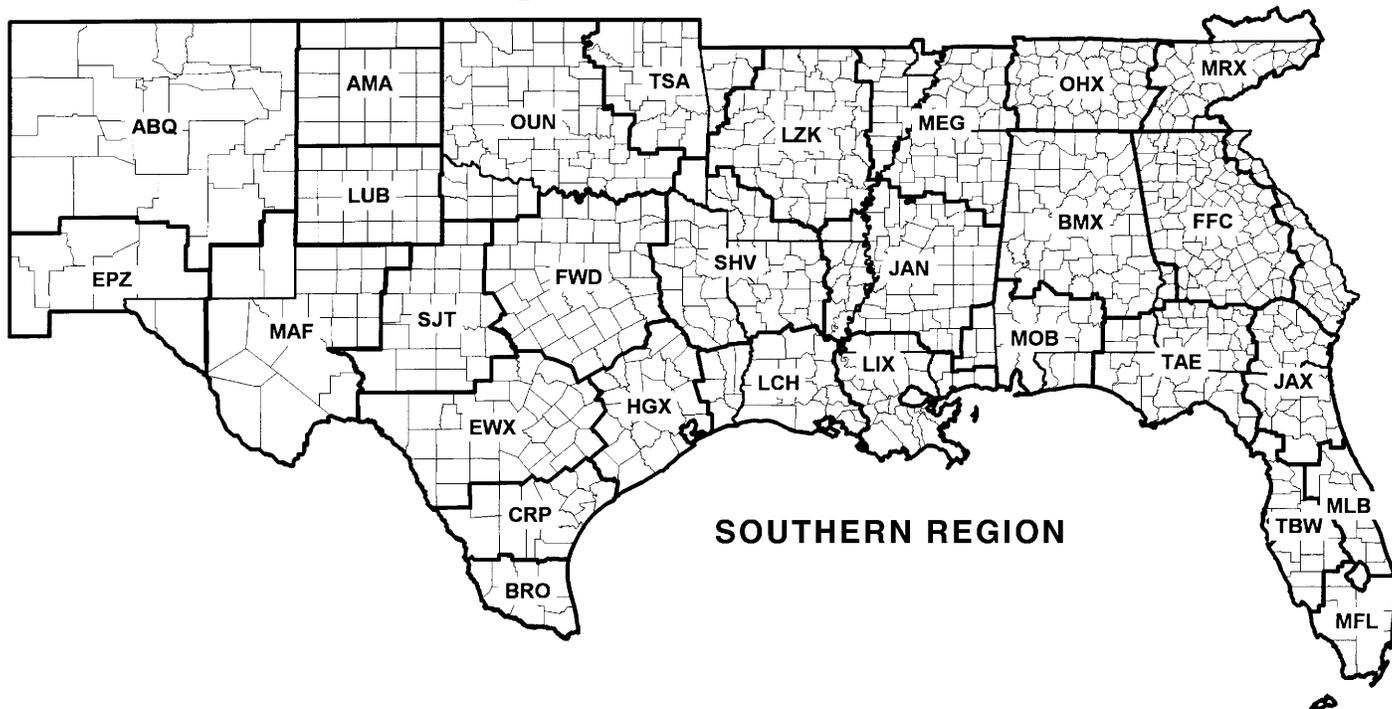
*(F0+F1) Weak Tornado*  
*(F2+F3) Strong Tornado*  
*(F4+F5) Violent Tornado*



# COUNTY WARNING & FORECAST AREAS - MODERNIZED NWS

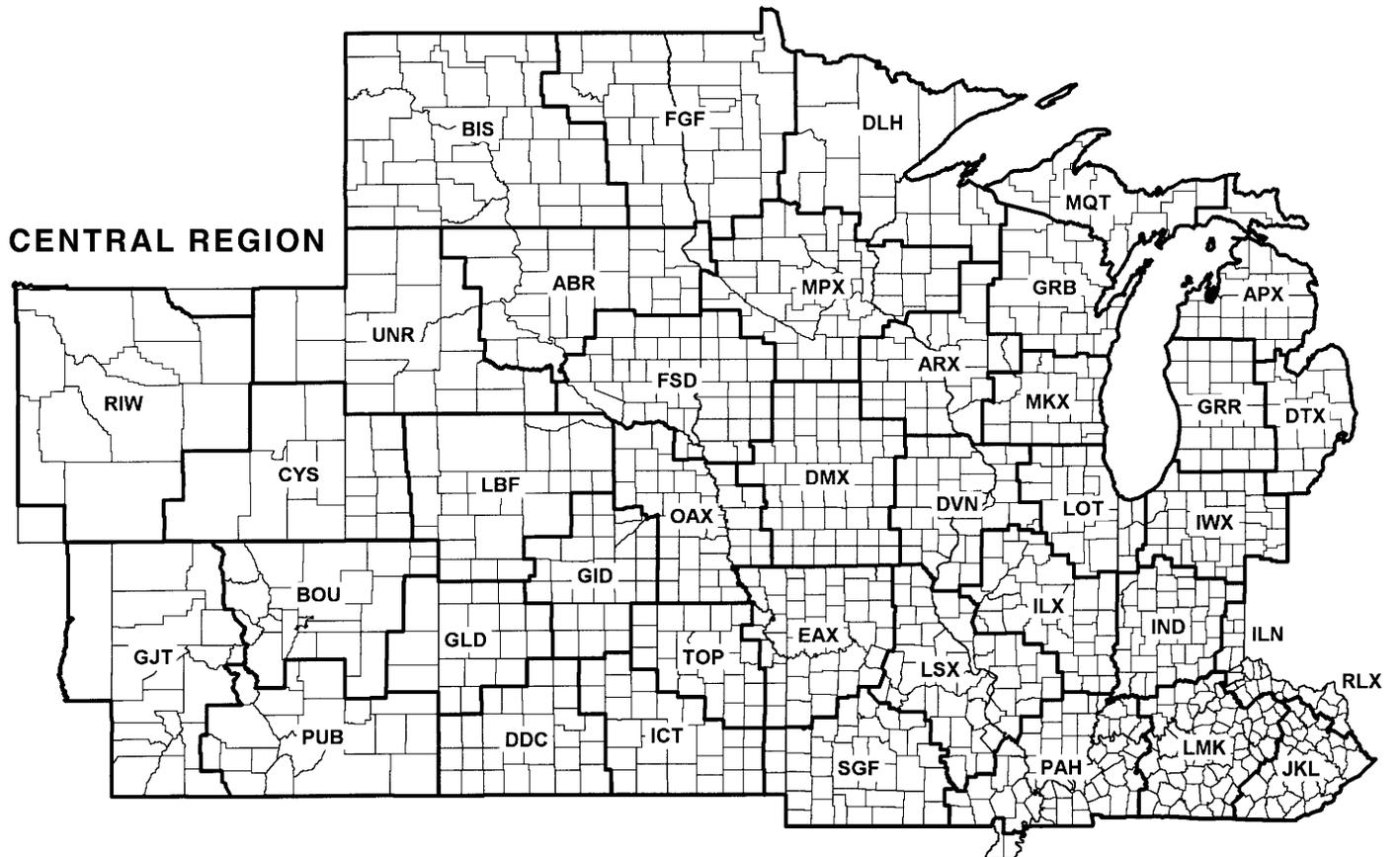
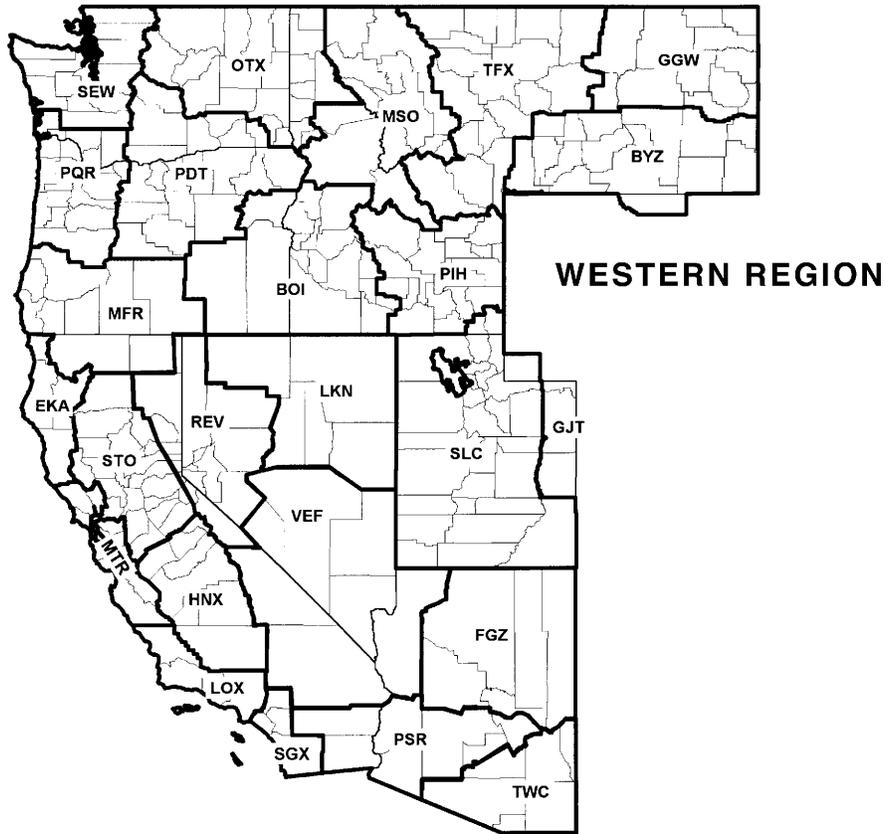


**EASTERN REGION**

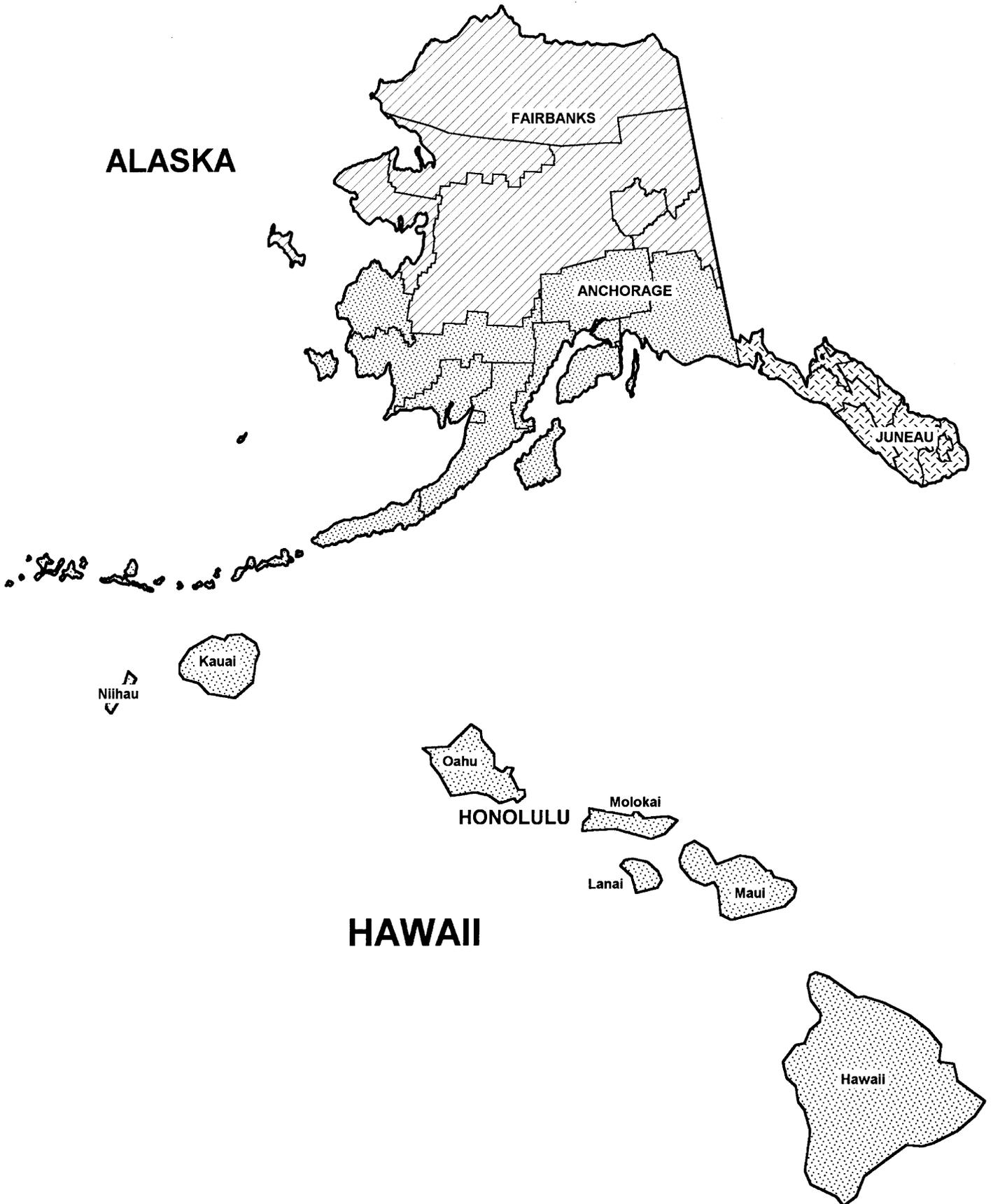


**SOUTHERN REGION**

# COUNTY WARNING & FORECAST AREAS - MODERNIZED NWS



# MODERNIZED COUNTY WARNING AREAS



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